REGULATION OF MOODS AND EMOTIONS: AN INVESTIGATION OF AFFECT REGULATION AND ITS CONTRIBUTION TO AFFECTIVE OUTCOMES

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Abstract

The present project was designed to advance understanding of the construct of affect regulation. The project had three components. First, a critical literature review was conducted which sought to clarify conceptual issues confronting the field. This review led to identification of research questions and hypotheses that were tested in two empirical studies. Study 1 \((N = 246)\) investigated psychometric properties of a recently developed self-report instrument, the Affect Regulation Inventory (ARI; Pirzas, 2006). The ARI assesses the use of a range of affect regulation strategies. Results demonstrated a sound psychometric profile for the ARI including evidence of internal consistency, test-retest reliability and construct validity (active and distracting strategies were related to increased Positive Affect, whereas passive strategies were related to increased Negative Affect). Further, data from participants who completed the measure on two separate occasions pointed to the predictive validity of the scale, whereby it was found that strategy use at Time 1 predicted mood scores at Time 2. It was suggested that the ARI can be of value in research and clinical settings.

The major Study 2 \((N = 924)\) was a comprehensive investigation of affect regulation, with theoretical and applied components. In theoretical terms, the study assessed two different aspects of the affect regulation process identified in the literature: dispositions and deliberate actions. The interrelationships between these two types of variable were examined, and their individual and combined impact on affective outcomes was tested. In the examination of these separable features of affect regulation, this study sought to develop a more complete model of the affect regulation process than currently available. The applied orientation of the study was geared towards identifying affect regulation-related intervention targets for improving mental health outcomes, as demonstrated by relationships between affect regulation strategies (i.e., deliberate actions) and a range of emotional processing competencies (i.e., dispositions) and level of languishing and flourishing reported by the individual. The impact of individual differences in affect regulation was explored.

Following a series of analyses that included Structural Equation Modelling, Study 2 found that affect regulation strategies engaged in by the individual impact affective outcomes. Further, affect regulation dispositions were strongly related to outcomes, highlighting in particular that perceived control over affect and greater
emotional clarity, acceptance and awareness were beneficial. Additionally, a number of individual differences in affect regulation processes were revealed that were largely consistent with literature-based predictions. This project addressed conceptual and methodological deficiencies in the affect regulation literature and demonstrated that the manner in which an individual approaches, appraises, and subsequently chooses to regulate affect, has important implications for health and well-being.
Declaration

I declare that this report does not incorporate without acknowledgment any material previously submitted for a degree in any University, College of Advanced Education, or other educational institution, and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

I further declare that the ethical principals and procedures specified in the Faculty of Life and Social Sciences Human Research Ethics Committee document have been adhered to in the preparation of this report.

Name: Sarah Pirzas
Signed:
Acknowledgements

The completion of this thesis was far from an individual effort. I’ve had great assistance, of all different sorts, from a number of people. Not least of which commenced following the greatest “interruption” to my thesis work - the arrival of my daughter Macey! Although pre-Macey, I was under the illusion that I would “finish this while she slept”, this was certainly not the case (i.e., she barely slept until aged six months) and so the thesis completion has relied heavily on family support. In this way, the completion of the project is as much due to their generosity as my own individual effort.

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Table of contents

Abstract ........................................................................................................................... i

Declaration .................................................................................................................... iii

Acknowledgements ....................................................................................................... iv

Table of contents ............................................................................................................ v

List of Tables ................................................................................................................. x

List of Figures ............................................................................................................... xi

PART ONE: RESEARCH INTRODUCTION

CHAPTER ONE: INTRODUCTION AND OVERVIEW .............................................. 1

1.1 General overview ..................................................................................................... 1

1.2 Introducing affect regulation .................................................................................... 2

1.2.1 A working definition of affect regulation ..................................................... 2

1.2.2 The function of affect regulation .................................................................. 3

1.3 There are problems and gaps in this literature ......................................................... 4

1.3.1 Definitions, models/conceptualisations and measurement ........................... 4

1.3.2 Navigating theoretical boundaries with closely related constructs ............... 5

1.4 Research in this area is needed ................................................................................ 6

1.5 The present project ................................................................................................... 9

1.6 Summary of Chapter One ...................................................................................... 10

PART TWO: REVIEW OF THEORETICAL AND EMPIRICAL LITERATURE

CHAPTER TWO: CLARIFYING THE FUNDAMENTALS ................................. 12

2.1 Affect regulation – current definitions ................................................................... 12

2.2 Affect regulation – closely related constructs ......................................................... 15

2.2.1 Affect, mood and emotion .......................................................................... 15

2.2.2 Affect regulation, mood regulation and emotion regulation ....................... 16

2.2.3 Coping ......................................................................................................... 17

2.2.4 Emotional intelligence ................................................................................ 18

2.2.5 Experiential avoidance ................................................................................ 20

2.2.6 Meta-mood .................................................................................................. 21

2.2.7 Summary of thesis position ......................................................................... 24

2.3 Affect regulation – existing models and conceptualisations .................................. 24

2.4 Affect regulation – implications of choice of measurement tool and some assessment options .............................................................. 28

2.5 Summary of Chapter Two ...................................................................................... 33

CHAPTER THREE: CORRELATES OF AFFECT REGULATION .............. 34

3.1 Affect regulation and outcomes ............................................................................. 34

3.2 Affect regulation and individual differences ........................................................... 37

3.2.1 Gender ...................................................................................................... 37
CHAPTER SEVEN: STUDY 2. REGULATION OF MOODS AND EMOTIONS – INVESTIGATING AFFECT REGULATION AND ITS CONTRIBUTION TO AFFECTIVE OUTCOMES

7.1 Aims and hypotheses ................................................................................. 94
7.2 Method ........................................................................................................... 100
  7.2.1 Participants ............................................................................................. 100
  7.2.2 Materials/Measures ............................................................................. 101
  7.2.3 Measures of affect regulation processes ............................................. 101
  7.2.4 Personality measurement ................................................................... 104
  7.2.5 Measurement of affective outcomes .................................................. 105
  7.2.6 Procedure ............................................................................................. 110
  7.2.7 Data Treatment ................................................................................... 110
7.3 Results ......................................................................................................... 116
  7.3.1 Missing Data ........................................................................................ 116
  7.3.2 Normality ............................................................................................... 117
  7.3.3 Outliers .................................................................................................. 118
  7.3.4 Multicollinearity ................................................................................... 118
  7.3.5 Linearity and Homoscedasticity ............................................................ 118
  7.3.6 Descriptive Statistics ........................................................................ 119
  7.3.7 Investigations of Latent Structure ....................................................... 120
  7.3.8 Results for Aim 1: Factor structure of the Affect Regulation Inventory (ARI) ..................................................................................... 122
  7.3.9 Results for Aim 2: Impact of specific strategies on affective outcomes, using correlations and multiple regression ........................................ 134
  7.3.10 Results for Aim 3: Developing a detailed model of the affect regulation process - Impact of the ARI and DERS variables on the five affective outcomes, using multiple regression ....................................... 137
  7.3.11 Further results for Aim 3: Developing a detailed model of the affect regulation process - Impact of the ARI and DERS variables on the five affective outcomes, using SEM .......................................................... 142
  7.3.12 Results for Aim 5: Value of the affect regulation construct in relation to personality – Impact of ARI strategy variables and DERS disposition variables on affective outcomes when API personality variables were statistically controlled, using multiple regression ........................................... 164
  7.3.13 Results for Aim 6: Is the relationship between affect regulation strategy use and affective outcomes moderated by level of Neuroticism or Gender? - Using interactions in multiple regression ......................................................... 164
  7.3.14 Results for Aim 7: Do ARI strategy variables and DERS disposition variables differentially impact positive and negative affective outcomes? – Using multiple regression ......................................................... 175
  7.3.15 Results for Aim 8: Gender differences in responses to ARI strategy variables and DERS disposition variables – Using ANOVA ......................................................... 176
7.4 Discussion of Study 2 findings ................................................................. 178
  7.4.1 Overview of aims and findings ............................................................ 178
  7.4.2 Descriptive findings from Study 2 ...................................................... 179
  7.4.3 Aim 1: Psychometric investigation of the ARI .................................. 180
  7.4.4 Aim 2: Impact of affect regulation strategies on affective outcomes .... 182
  7.4.5 Aim 3: Developing a detailed model of the affect regulation process: Impact of the ARI and DERS variables on the five affective outcomes, using multiple regression .......................................................... 183
7.4.6 Aim 3: Developing a detailed model of the affect regulation process:
Impact of the ARI and DERS variables on the five affective outcomes,
using SEM.................................................................203
7.4.7 Aim 3: Summary of findings from the regressions and SEM..............218
7.4.8 Aim 5: Is affect regulation meaningful for outcomes above and beyond
personality variables?......................................................220
7.4.9 Aim 6: Is the relationship between strategies and affective outcomes
moderated by Gender or level of N? ...................................220
7.4.10 Aim 7: Are a different set of affect regulation variables relevant to
flourishing versus languishing of the individual? .....................227
7.4.11 Aim 8: Gender differences in strategies and dispositions: Do males
and females show differential styles of responding to mood and emotional
experiences? ................................................................................228
7.4.12 Conclusion ............................................................................230
7.4.13 Summary of Chapter Seven ...................................................231

CHAPTER EIGHT: GENERAL DISCUSSION ..............................................233
8.1 Performance of the recently developed ARI.....................................233
8.2 Predicting languishing and flourishing from an affect regulation perspective ....235
  8.2.1 Examining the individual and combined impact of specific affect
regulation strategies and broader affect regulation dispositions on affective
outcomes ......................................................................................235
  8.2.2 Assessing the predictive power of strategies and dispositions when
personality competes for explanatory variance .................................238
  8.2.3 Examining the interplay between affect regulation and personality
variables in the prediction of languishing and flourishing outcomes ....240
8.3 Improving well-being: Intervention targets identified in this project .......242
  8.3.1 Reducing distress and negative affect ........................................243
  8.3.2 Increasing positive affect, satisfaction with life and psychological
well-being .....................................................................................243
  8.3.3 Summary ..................................................................................244
8.4 Implications of the project findings ....................................................245
  8.4.1 Measurement .............................................................................245
  8.4.2 Applied: theoretical and practical/clinical .....................................246
8.5 Project limitations and methodological considerations ........................248
  8.5.1 Study 1 ............................................................................................248
  8.5.2 Study 2 ............................................................................................249
8.6 Proposed directions for future research ..............................................253
8.7 Conclusion ......................................................................................255

REFERENCES.........................................................................................257

APPENDICES ..........................................................................................283
Appendix A. Further results from Study 1: Collection of qualitative data responses
concerning affect regulation strategy use .............................................284
Appendix B. Further results from Study 2: Continued investigation of the primary
languishing model for generalised psychological distress (invariance testing
results) .................................................................................................286
Appendix C. Further results from Study 2: Investigation via confirmatory factor
analysis (CFA) of a “distress proneness” construct .........................289
Appendix D. Frequency histograms and probability plots for assessing normality of continuous variables ................................................................. 292
Appendix E. EFA results for Study 2 instruments ......................................................... 330
Appendix F. Gender differences in responses to Study 2 survey instruments ............ 340
Appendix G. Study 1 single administration group plain language statement ............ 342
Appendix H. Study 1 test retest administration group plain language statement ....... 343
Appendix I. Study 1 participant recruitment advertisement ...................................... 345
Appendix J. Study 1 research survey instrument ....................................................... 347
Appendix L. Study 1 resubmitted sections of ethics application ............................... 365
Appendix M. Study 2 plain language statement ..................................................... 367
Appendix N. Study 2 participant recruitment advertisement .................................... 369
Appendix O. Study 2 research survey instrument ................................................... 370
Appendix P. Study 2 submitted ethics application .................................................... 389
Appendix Q. Study 2 resubmitted sections of ethics application .............................. 403
Appendix R. Unpublished manuscript reporting on development of MRI/ARI ....... 407
List of Tables

Table 1: Measurement instrument details ................................................................. 31
Table 2: Summary of studies that examined similar variables to Gratz & Roemer’s DERS ................................................................. 50
Table 3: Summary of strategy-focused research ...................................................... 54
Table 4: Summary of studies that have combined measurement of dispositions and strategies .......................................................... 58
Table 5: Description of Study 1 analytic methods by participant type ................... 81
Table 6: Means, Standard Deviations, Observed Range, Cronbach’s Alpha, Published Norms and Previous Data for the Continuous Variables .......................... 83
Table 7: Pearson’s Correlations Between Predictor and Outcome Variables .......... 83
Table 8: Means, Standard Deviations, Observed Range, Cronbach’s Alpha, Published Norms and Previous Data for the Continuous Variables .......................... 85
Table 9: Pearson’s Correlations Between Predictor and Outcome Variables .......... 86
Table 10: Summary of Hierarchical Regression Analyses with Time 2 PA as the Dependent Variable ................................................................. 89
Table 11: Subscale Description for Difficulties in Emotion Regulation Scale (DERS) ......................................................................................... 103
Table 12: Means, Standard Deviations, Observed Range, Cronbach’s Alpha, Absolute Skew and Kurtosis Statistics and Published Norms for all Continuous Variables ................................................................. 119
Table 13: Factor Structure of the ARI using Maximum Likelihood Extraction With Oblique Rotation ........................................................................ 123
Table 14: Factor Pattern and Structure Coefficients for Affect Regulation Inventory Subscales ......................................................................... 131
Table 15: Pearson’s Correlations Between Study Predictor and Outcome Variables. 136
Table 16: Coefficient Summary from Linear Regression Predicting K10 Psych Distress ......................................................................................... 138
Table 17: Coefficient Summary from Linear Regression Predicting NA .................. 139
Table 18: Coefficient Summary from Linear Regression Predicting PA .................. 139
Table 19: Coefficient Summary from Linear Regression Predicting Satisfaction with Life ......................................................................................... 140
Table 20: Coefficient Summary from Linear Regression Predicting Psychological Well-Being ........................................................................ 141
Table 21: Summary of Hierarchical Regression Analyses with N as Moderator ...... 167
Table 22: Summary of Hierarchical Regression Analyses with Gender as Moderator ......................................................................................... 173
Table 23: Scale Means and Standard Deviations According to Gender .................. 176
Table 24: Factor Structure of the DERS with PAF Extraction and Oblique Rotation ......................................................................................... 331
Table 25: Correlations Amongst Scale Factors of the DERS .................................. 332
Table 26: Factor Structure of the API with PCA Extraction and Orthogonal Rotation ......................................................................................... 333
Table 27: Scale Means and Standard Deviations According to Participant Gender .. 340
List of Figures

Figure 1: Project Framework ............................................................................................. 71
Figure 2: Scree Plot for ARI Factors ............................................................................... 122
Figure 3: Five-Item Factor Solution for Active Mood Management ......................... 125
Figure 4: Four-Item Factor Solution for Active Mood Management ......................... 126
Figure 5: Five-Item Factor Solution for Passive Mood Management ......................... 127
Figure 6: Four-Item Factor Solution for Passive Mood Management ......................... 127
Figure 7: Five-Item Factor Solution for Seeking Pleasure/Distraction ....................... 128
Figure 8: Three-Factor Measurement Model for the Affect Regulation Inventory .... 129
Figure 9: Re-Specified Three-Factor Measurement Model for the Affect Regulation Inventory ......................................................................................................................................... 133
Figure 10: Initial Structural Model Predicting Level of Psychological Distress ........... 143
Figure 11: Re-Specified Model 1 Predicting Level of Psychological Distress ............... 144
Figure 12: Final Model Predicting Level of Psychological Distress .............................. 145
Figure 13: Structural Model Predicting Level of Psychological Distress ..................... 149
Figure 14: Structural Model Predicting Use of Active Mood Management (N and C) .... 149
Figure 15: Structural Model Predicting Use of Active Mood Management (DERS) ...... 150
Figure 16: Structural Model Predicting Difficulties in Affect Regulation Dispositions .......................................................... 150
Figure 17: Full Structural Model for Predicting Level of Negative Affect ................. 151
Figure 18: Re-Specified Structural Model for Predicting Level of Negative Affect ...... 152
Figure 19: Initial Structural Model Predicting Level of Positive Affect ...................... 153
Figure 20: Re-Specified Model 2 for Predicting Level of Positive Affect ................. 154
Figure 21: Re-Specified Model 4 for Predicting Level of Positive Affect .................. 155
Figure 22: Re-Specified Model 5 for Predicting Level of Positive Affect .................. 156
Figure 23: Final Model for Predicting Level of Positive Affect .................................. 157
Figure 24: Initial Structural Model for Predicting Level of Satisfaction with Life ........ 158
Figure 25: Re-Specified Model 1 for Predicting Level of Satisfaction with Life .......... 159
Figure 26: Final Model for Predicting Level of Satisfaction with Life .......................... 160
Figure 27: Initial Structural Model for Predicting Level of Psychological Well-Being ...... 161
Figure 28: Final Model for Predicting Level of Psychological Well-Being .................. 162
Figure 29: Interaction Between Level of Passive Strategy Use and Neuroticism in the Prediction of Psychological Distress ........................................................................... 166
Figure 30: Interaction Between Level of Pleasurable and Distracting Strategy Use and Neuroticism in the Prediction of Positive Affect ....................................................... 167
Figure 31: Interaction Between Level of Active Strategy Use and Gender in the Prediction of Psychological Distress ........................................................................................................ 169
Figure 32: Interaction Between Level of Active Strategy Use and Gender in the Prediction of Positive Affect ............................................................................................................ 169
Figure 33: Interaction Between Level of Active Strategy Use and Gender in the Prediction of Psychological Well-Being .................................................................................. 170
Figure 34: Interaction Between Seeking Pleasure/Distraction Strategies and Gender in the Prediction of Psychological Distress ................................................................................ 171
Figure 35: Interaction Between Seeking Pleasure/Distraction and Gender in the Prediction of Satisfaction with Life .............................................................................................. 172
Figure 36: Interaction Between Seeking Pleasure/Distraction and Gender in the Prediction of Psychological Well-Being .................................................................................... 173
Figure 37: Structural Model for Predicting Level of Psychological Distress in High Versus Low Neuroticism Participants .............................................................. 287
Figure 38: CFA Model Testing Hypothesised Latent Construct “Distress Proneness” ........................................................................................................... 291
Figure 39: Frequency histogram of ARI Active Mood Management (N = 924) .... 292
Figure 40: Normal q-q plot of ARI Active Mood Management (N = 924) ........ 292
Figure 41: Detrended q-q plot of ARI Active Mood Management (N = 924) .... 292
Figure 42: Frequency histogram of ARI Passive Mood Management (N = 924) .... 293
Figure 43: Normal q-q plot of ARI Passive Mood Management (N = 924) ....... 293
Figure 44: Detrended q-q plot of ARI Passive Mood Management .................. 293
Figure 45: Frequency histogram of ARI Seeking Pleasure/Distraction (N = 924) 294
Figure 46: Normal q-q plot of ARI Seeking Pleasure/Distraction (N = 924) ...... 294
Figure 47: Detrended q-q plot of ARI Seeking Pleasure/Distraction (N = 924) .... 295
Figure 48: Frequency histogram of DERS Acceptance (N = 924) .................. 295
Figure 49: Normal q-q plot of DERS Acceptance (N = 924) ....................... 296
Figure 50: Detrended q-q plot of DERS Acceptance (N = 924) .................... 296
Figure 51: Frequency histogram for DERS Goals (N = 924) ......................... 297
Figure 52: Normal q-q plot of DERS Goals (N = 924) .................................. 297
Figure 53: Detrended q-q plot of DERS Goals (N = 924) ............................ 298
Figure 54: Frequency histogram of DERS Impulse (N = 924) ....................... 298
Figure 55: Normal q-q plot of DERS Impulse (N = 924) ............................ 299
Figure 56: Detrended q-q plot of DERS Impulse (N = 924) ......................... 299
Figure 57: Frequency histogram of DERS Awareness (N = 924) .................. 300
Figure 58: Normal q-q plot of DERS Awareness (N = 924) ....................... 300
Figure 59: Detrended q-q plot of DERS Awareness (N = 924) .................... 301
Figure 60: Frequency histogram of DERS Access to Strategies (N = 924) ....... 301
Figure 61: Normal q-q plot of DERS Access to Strategies (N = 924) ............. 302
Figure 62: Detrended q-q plot of DERS Access to Strategies (N = 924) .......... 302
Figure 63: Frequency histogram of DERS Clarity (N = 924) ........................ 303
Figure 64: Normal q-q plot of DERS Clarity (N = 924) ............................... 303
Figure 65: Detrended q-q plot of DERS Clarity (N = 924) .......................... 304
Figure 66: Frequency histogram of DERS Total Score (N = 924) .................. 304
Figure 67: Normal q-q plot of DERS Total Score (N = 924) ....................... 305
Figure 68: Detrended q-q plot of DERS Total Score (N = 924) ................... 305
Figure 69: Frequency histogram of API Neuroticism (N = 924) .................... 306
Figure 70: Normal q-q plot of API Neuroticism (N = 924) .......................... 306
Figure 71: Detrended q-q plot of API Neuroticism (N = 924) ..................... 307
Figure 72: Frequency histogram of API Extraversion (N = 924) .................... 307
Figure 73: Normal q-q plot of API Extraversion (N = 924) ......................... 308
Figure 74: Detrended q-q plot of API Extraversion (N = 924) ........................ 308
Figure 75: Frequency histogram of API Openness (N = 924) ....................... 309
Figure 76: Normal q-q plot of API Openness (N = 924) ............................. 309
Figure 77: Detrended q-q plot of API Openness (N = 924) .......................... 310
Figure 78: Frequency histogram of API Agreeableness (N = 924) ............... 310
Figure 79: Normal q-q plot of API Agreeableness (N = 924) ...................... 311
Figure 80: Detrended q-q plot of API Agreeableness (N = 924) ................... 311
Figure 81: Frequency histogram of API Conscientiousness (N = 924) .......... 312
Figure 82: Normal q-q plot of API Conscientiousness (N = 924) ................. 312
Figure 83: Detrended q-q plot of API Conscientiousness (N = 924) .......... 313
Figure 84: Frequency histogram of K-10 Psychological Distress (N = 924)..... 313
Figure 85: Normal q-q plot of K-10 Psychological Distress ($N = 924$) ..................... 314
Figure 86: Detrended q-q plot of K10 Psychological Distress ($N = 924$) .................. 314
Figure 87: Frequency histogram of PANAS Positive Affect ($N = 924$) .................... 315
Figure 88: Normal q-q plot of PANAS Positive Affect ($N = 924$) ............................ 315
Figure 89: Detrended q-q plot of PANAS Positive Affect ($N = 924$) ........................ 316
Figure 90: Frequency histogram of PANAS Negative Affect ($N = 924$) ................. 316
Figure 91: Normal q-q plot of PANAS Negative Affect ($N = 924$) ......................... 317
Figure 92: Detrended q-q plot of PANAS Negative Affect ($N = 924$) ...................... 317
Figure 93: Frequency histogram of Ryff Autonomy ($N = 924$) ................................. 318
Figure 94: Normal q-q plot of Ryff Autonomy ($N = 924$) ........................................ 318
Figure 95: Detrended q-q plot of Ryff Autonomy ($N = 924$) .................................... 319
Figure 96: Frequency histogram of Ryff Enviro Mastery ($N = 924$) ......................... 319
Figure 97: Normal q-q plot of Ryff Enviro Mastery ($N = 924$) .................. 320
Figure 98: Detrended q-q plot of Ryff Enviro Mastery ($N = 924$) ........................... 320
Figure 99: Frequency histogram of Ryff Personal Growth ($N = 924$) ...................... 321
Figure 100: Normal q-q plot of Ryff Personal Growth ($N = 924$) ......................... 321
Figure 101: Detrended q-q plot of Ryff Personal Growth ($N = 924$) ..................... 322
Figure 102: Frequency histogram of Ryff Positive Relations ($N = 924$) ................... 322
Figure 103: Normal q-q plot of Ryff Positive Relations ($N = 924$) .......................... 323
Figure 104: Detrended q-q plot of Ryff Positive Relations ($N = 924$) ..................... 323
Figure 105: Frequency histogram of Ryff Self-Acceptance ($N = 924$) ................... 324
Figure 106: Normal q-q plot of Ryff Self-Acceptance ($N = 924$) ......................... 324
Figure 107: Detrended q-q plot of Ryff Self-Acceptance ($N = 924$) ...................... 325
Figure 108: Frequency histogram of Ryff Purpose in Life ($N = 924$) .................... 325
Figure 109: Normal q-q plot of Ryff Purpose in Life ($N = 924$) ......................... 326
Figure 110: Detrended q-q plot of Ryff Purpose in Life ($N = 924$) ...................... 326
Figure 111: Frequency histogram of Ryff total score ($N = 924$) ...................... 327
Figure 112: Normal q-q plot of Ryff total score ($N = 924$) ............................. 327
Figure 113: Detrended q-q plot of Ryff total score ($N = 924$) .............................. 328
Figure 114: Frequency histogram of SWLS Satisfaction with Life ($N = 924$) ........ 328
Figure 115: Normal q-q plot of SWLS Satisfaction with Life ($N = 924$) .............. 329
Figure 116: Detrended q-q plot of SWLS Satisfaction with Life ($N = 924$) ........... 329
Figure 117: Scree Plot for DERS Factors ................................................................. 330
Figure 118: Scree Plot for API Components ............................................................ 333
Figure 119: Scree Plot for K10 factors ...................................................................... 336
Figure 120: Scree Plot for PANAS Factors ............................................................... 337
Figure 121: Scree Plot for PWB Factors .................................................................. 339
PART ONE: RESEARCH
INTRODUCTION
CHAPTER ONE: INTRODUCTION AND OVERVIEW

The overarching aim of the project reported here was to comprehensively assess the affect regulation construct by investigating two aspects of the affect regulation process. The project incorporated three steps. First, a critical literature review was conducted with the goal of clarifying core conceptual issues in the field. This led to design of Study 1, which explored a recently developed instrument for capturing affect regulation strategy use, and Study 2, which examined the impact of two types of affect regulation variable (dispositions and deliberate actions) on affective outcomes. This chapter introduces the affect regulation construct and the theoretical and empirical underpinnings of the current project. Gaps in existing literature are considered and a case is presented for the need for further research in this important area.

1.1 General overview

Effective regulation of affect states is a key determinant of mental health versus mental illness (Amstadter, 2008; Green & Malhi, 2006; Gross & Levenson, 1997; Gross, 1998; Kring & Werner, 2004) and is vital for social adjustment and overall well-being (Campbell-Sills, Barlow, Brown, & Hofmann, 2006). However, research in the affect regulation domain is still developing and there are several outstanding questions. For example, there is no consensual operationalisation of the affect regulation construct and there is ongoing debate about the theoretical and practical intersection between this and related concepts such as emotion regulation, mood regulation, coping, defenses and affect control (Gross; Koole, 2009).

Study 1 had a psychometric focus. It was oriented toward the investigation of a recently developed measure for use in this area: the Affect Regulation Inventory (ARI, Pirzas, 2006). The ARI was designed to measure strategies people employ to manage an unpleasant mood or maintain or enhance a pleasant mood. The ARI was then used in Study 2, which aimed to examine the individual and combined impact of affect regulation strategies (i.e., deliberate actions), emotional processing characteristics (i.e., dispositions) and personality variables on affective outcomes. A core focus of Study 2 was to test the relative influence of affect regulation strategies on affective outcomes, in comparison to other recognised predictors such as personality and characteristics of emotional processing. Gender differences in
examined affect regulation processes were also of interest. It was expected that the project would contribute to the literature by elucidating the particular affect regulation processes important in the determination of outcomes, and the ways in which personality traits interact with strategies and emotional processing characteristics to impact levels of languishing and flourishing – an additional conceptualisation of affective outcomes in this project. A related aim was to assess whether specific regulation strategies impact these outcomes and therefore warrant consideration in future research. In practical terms, it was a goal to identify affect regulation-related intervention targets for improving affective outcomes that could be informative for both clinicians and the general population.

1.2 Introducing affect regulation

1.2.1 A working definition of affect regulation

There has been an explosion of affect regulation research in the past two decades (Augustine & Hemenover, 2009; Gross, 1998; Kring & Sloan, 2010; Larsen & Prizmic, 2004; Parkinson & Totterdell, 1999; Rottenberg & Gross, 2007; Thayer, Newman, & McClain, 1994). With its roots in the psychoanalytic and stress and coping traditions, this research area is considered to have originated in developmental psychology (Dodge & Garber, 1991) before growing in both the child and adult literatures (Gross). The topic has been approached from a range of perspectives, including physiological concomitants of affect regulation processes (e.g., Campbell-Sills et al., 2006), neuropsychological correlates (e.g., Davidson, 1998), the identification and evaluation of particular strategies for affect regulation (e.g., Augustine & Hemenover; Fichman, Koestner, Zuroff, & Gordon, 1999; Gross, 1998; Kamholz, Hayes, Carver, Gulliver, & Perlman, 2006; Parkinson & Totterdell; Thayer et al., 1994), individual differences in regulation (Davis, Andresen, Trosko, Massman, & Lovejoy, 2005; Gohm, 2003; Gross & John, 2003; Hemenover, Augustine, Shulman, Tran, & Barlett, 2008; Thomsen, Mehlshen, Viidik, Sommerlund, & Zachariae, 2005) and the intersection between affect regulation and psychopathology (e.g., Amstadter, 2008; Kring & Werner, 2004; Mennin, 2004; Whiteside, Chen, Neighbors, Hunter, Lo, & Larimer, 2007). As will be seen below however, this variety of approaches has led to a plethora of definitions (for a summary, see Bloch, Moran, & Kring, 2010, p.90).
In the present project, affect regulation was conceptualised as referring to two core components: the manner in which the individual approaches and processes his or her emotional experiences (dispositions); and the modification of these states to match desired experience (deliberate actions or strategies).” The first aspect borrows from Gratz & Roemer’s (2004) conceptualisation of emotion regulation. These authors developed an “integrative conceptualisation of emotion regulation” that incorporates: level of attention directed toward emotional experience; degree of clarity and acceptance concerning this experience; the impact of emotions on goal-directed behaviour and impulse control; and the extent to which the individual believes the unpleasant emotions can be modified. Research has supported the relevance of these dimensions of emotion regulation to health and well-being outcomes (Fox, Axelrod, Paliwal, Sleeper, & Sinha, 2007; Gratz, Rosenthal, Tull, Lejuez, & Gunderson, 2006; Gratz & Roemer, 2008; Gratz & Tull, 2010; Whiteside et al., 2007). The second component of affect regulation was drawn from the specific strategies perspective in affect regulation literature (see Thayer et al., 1994; Parkinson & Totterdell, 1999; Kamholz et al., 2006), and encompasses the particular activities that people engage in to modulate their affective experience. In line with these two aspects, the present project defined affect regulation as incorporating the monitoring and processing of one’s emotional experiences (affect regulation dispositions), and the subsequent modification of these states (deliberate actions), which may include efforts at repairing a negative mood or maintaining or enhancing a positive mood. It is acknowledged that this conceptualisation of the affect regulation process does not incorporate all possible aspects of the phenomenon. However, as discussed in the overlapping emotion regulation literature, these constructs are complex and broad, and it is not possible to empirically examine all aspects simultaneously (Garnefski, Kraaij, & Spinhoven, 2001).

1.2.2 The function of affect regulation

It is useful to distinguish between two main types of affect regulation, namely automatic and controlled (Amstadter, 2008; Bloch et al., 2010; Davidson, 1998; Gross, 1998; Larsen, 2000; Parkinson & Totterdell, 1999; Westen, 1994). Automatic affect regulation occurs at a nonconscious level, and may include bodily processes directed toward the maintenance of homeostasis, or defence mechanisms which are
spontaneously deployed (Parkinson & Totterdell). Controlled affect regulation, in contrast, involves the individual consciously monitoring changes in affective experience and exerting a deliberate influence on this experience using a variety of possible strategies (Parkinson & Totterdell). A range of motivations for engaging in conscious affect regulation have been proposed. For example, it has been argued that these efforts at the minimisation of unpleasant affect and maximisation of pleasant affect are a driving force in human motivation and action (Greenberg, 2004). Similarly, it has been asserted that the mood and emotion regulation process is hedonically motivated, such that people engage in activities they believe will have pleasurable or energetic consequences, that will avoid pain and unpleasant affect and enhance pleasure (Gross, 1998; Larsen, 2000). In addition to these typical regulation goals, broader social motives have been discussed, leading to situations where individuals may seek to increase negative emotions or stop positive emotions (Gross). For example, people may modify their emotional experience in this way in order to conceal nervousness or amusement from others, to communicate bad news to another, to match the emotional state of an interaction partner or show love, or to achieve success in one’s job that requires display of certain feelings or compliance with specific rules concerning emotional behaviour (Gross).

1.3 There are problems and gaps in this literature

1.3.1 Definitions, models/conceptualisations and measurement

Definitional ambiguity is a challenge for the affect regulation literature. While the field has benefited from increased research interest in recent times, the breadth of this interest and the diversity of empirical studies has created definitional and conceptual chaos (Gross, 1998; Kring & Werner, 2004; Lewis, Zinbarg, & Durbin, 2010). Parkinson and Totterdell (1999) discuss that the lack of an established classificatory scheme for affect regulation processes has negatively impacted the quality of research conducted. Larsen and Prizmic (2004) also comment on the competing definitions of affect regulation, as well as the several published taxonomies and wide array of existing measures. In the overlapping emotion regulation literature, Kring and Werner note the definitional ambiguity surrounding this concept, and the associated difficulty of interpreting findings. They discuss that while consensus exists about what constitutes emotion, there is not yet agreement on the components of
emotion regulation. These authors argue that for research to advance, definitional confusion must be urgently addressed. Similarly, Lewis et al. (2010) commented on the challenges for emotion regulation researchers. They argue that while recent work had led to conceptual and methodological developments, critical issues such as the distinction between emotion activation/reactivity and emotion regulation remain, and existing definitions of the emotion regulation process are lacking. As suggested by Koole (2009), it is apparent that the tremendous increase in research volume in this area has made it vital that researchers work towards integrating the rapidly accumulating findings.

1.3.2 **Navigating theoretical boundaries with closely related constructs**

The literature recognises a number of concepts that overlap with affect regulation. Some authors have described the empirical boundaries between these constructs as fuzzy (Koole, 2009; Russell, 2003). In particular, questions have been raised concerning distinctions between affect regulation and the concepts of mood regulation, mood repair, emotion regulation, coping and defense (Gross, 1998). According to Gross, difficulties distinguishing these constructs are directly related to the challenge faced by emotion researchers in demarcating the phenomena of affect, mood, emotion and emotion episode. Gross’ particular conceptualisation depicts affect as the superordinate category comprising all valenced states including emotions, emotion episodes, moods, dispositional states and traits. Relatedly, “(I)n keeping with the broad conception of affect….affect regulation (is) superordinate to coping, emotion regulation, mood regulation, and traditional ego-defensive processes (1998, p276). Koole supports a similarly broad conception of emotion regulation in a more recent publication (2009). This author argues that although it is possible to find semantic differences between related constructs of emotion regulation, mood regulation, coping and affect regulation, there is also considerable overlap between these phenomena and their empirical borders are ill-defined. Responding to the current ambiguities in the literature, Koole suggests that a conceptualisation of emotion regulation that comprises the management of all types of emotion states (specific emotions, moods, stress and affect), would be most profitable to the literature at present.
Larsen (2000) also discusses that there is a need to distinguish between mood, emotion and affect, and describes both the overlap and differences between mood regulation and coping. According to Larsen, the coping literature is coextensive with literature on stressful life events, the focus of which is how individuals react to major events and daily hassles. These objective events are not emphasised in the mood regulation literature, where the focus is on response and regulation of one’s ongoing affective state. That is, Larsen posits that mood regulation is characterised by the direct or indirect modification of a subjective state, whereas coping is oriented toward objective circumstances. More recently, Larsen (2004, p41) supports use of the term affect regulation as a superordinate category, “…we prefer the term “affect regulation” to subsume the management of subjective feeling states in general.”

1.4 Research in this area is needed

The affect regulation construct has much to offer psychology, and has wider everyday implications. The control of one’s negative emotional experiences is a psychological phenomenon of considerable interest and is an important practical concern for the general population (Tice and Baumeister, 1993). For example, healthy adaptation requires learning to be aware of, to tolerate and to regulate negative emotionality, plus being able to enjoy the benefits of positive emotional experiences (Frijda, 1986). In addition, it has been proposed that the ability to self-regulate affective experience is vital in facilitating successful human social interaction and adjustment, particularly under conditions of stress (Amstadter, 2008; Campbell-Sills et al., 2006; Larsen, 2000). Relevant to all aspects of life from an early age, studies have shown that young children are instructed towards appropriate displays of emotion at particular crucial times, often in spite of their true feelings, and that a degree of socially-appropriate emotional display is expected throughout one’s life (Amstadter). Furthermore, the effective pursuit of life goals and continued engagement in goal-directed behaviours more generally, is dependent on the management of a wide range of emotional states (Campbell-Sills et al.).

It is evident that affect regulation processes form a large part of everyday life. It is not surprising therefore that researchers and psychopathologists have long speculated that disturbances in regulation of affect play a role in development and maintenance of psychopathology (Sloan & Kring, 2010). Indeed, Kamholz et al.
(2006) argued that psychological disorder is characterised by affect dysregulation. Sloan and Kring similarly commented that the majority of mental disorders featured in the current Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000) include one or more symptoms that reflect a disturbance in emotion. Others have observed that deficiencies in affect regulation are implicated in over 50% of DSM-IV Axis 1 and 100% of Axis II disorders (Amstadter, 2008; Gross, 1998).

Proponents of affect regulation see the concept as particularly relevant in the explanation of the most prevalent classes of mental disorders, the anxiety and depressive disorders (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Amstadter, 2008; Campbell-Sills et al., 2006; Salters-Pedneault, Roemer, Tull, Rucker, & Mennin, 2006). According to Aldao et al. (2010), as “distress disorders”, anxiety and depression result when individuals are unable to effectively manage their emotional experiences. These individuals are more likely to suffer from longer and more severe episodes of distress that then progress to a diagnosed anxiety or depressive illness. It is also noteworthy that diagnostic criteria for Post-Traumatic Stress Disorder (PSTD) and Generalised Anxiety Disorder (GAD) specifically refer to problems managing emotional experiences, including “efforts to avoid feelings” for PTSD and “difficulty controlling worry” for GAD (Amstadter). Indeed, it can be argued that regardless of specific diagnosis, the majority of people seeking treatment for psychological problems have some form of difficulty managing emotional experiences (Kring and Sloan, 2010). Likewise, many psychological interventions including dialectical behaviour therapy, emotion focused therapy, acceptance- and mindfulness-based therapy and emotion regulation therapy, provide direct instruction and training with regards to affect regulation (see Aldao et al.).

The importance of increased understanding of affect regulation processes has been discussed with reference to the dominant cognitive paradigm in psychology. Specifically, it is argued that the pervasive support for cognitive psychology has resulted in a relative lack of research into emotion-related phenomena, such as mood and emotion regulation (Lavallee, Thatcher, & Jones, 2004). This neglect has been regarded as a symptom of a gross underestimation of the centrality of emotional influences on mental processes and behaviour, a denial of human complexity, and an oversimplification of human beings as a purely thinking species that must bring their
emotions into line with rationality (Greenberg, 2004; Lavallee et al., 2004). In contrast, it is contended that emotion needs to be treated as an independent variable that has an impact on cognition and behaviour, and must be validated and incorporated into treatment models for mental disorders if these are to be effective (e.g., see Greenberg).

The value of the affect regulation construct is further evident with regards to clinical application: providing a functional explanation of high prevalence disorders. This point has been made previously in relation to experiential avoidance. Experiential avoidance refers to unwillingness to remain in contact with unpleasant internal experience such as bodily sensations, emotions and thoughts, and actions that are taken to alter or avoid these experiences (Chawla & Ostafin, 2007). In this way, it is argued that experiential avoidance is a form of maladaptive affect regulation, when this consists of avoidance and escape-oriented strategies and behaviours for example. That is, conceptualising illness from this viewpoint bypasses the currently prevalent syndromal perspectives of psychopathology, by describing functional processes underlying disorder. It can be argued that an affect regulation account of psychopathology is similar, as it is illuminating with regard to the particular behaviours that were instrumental in producing the condition, and thus, effective courses of action for intervention and treatment. In other words, the affect regulation construct moves beyond descriptive material concerning the nature of health and illness and explains these phenomena in terms of the role the individual has in determining them. This information may lead to development of case-specific interventions and better well-being outcomes.

It is therefore crucial that understanding of affect regulation processes is advanced. While there has been a proliferation of research in this area in the past 20 or so years, outstanding issues concerning definitions, conceptualisations and measurement remain. These are pressing matters if knowledge in this field is to continue to progress. What is also needed is increased understanding of the processes underlying adaptive and maladaptive responses to affect, and the role the latter play in development and maintenance of psychopathology.
1.5 The present project

The overarching aim of the present project was to improve understanding of affect regulation and its importance for well-being. The project comprised three elements: (1) a critical literature review conducted to move towards conceptual clarity and develop specific hypotheses; (2) the minor Study 1: a psychometric evaluation of a recently developed instrument for capturing affect regulation strategy use, the Affect Regulation Inventory (ARI, Pirzas, 2006) and; (3) the major Study 2: a comprehensive investigation of the impact of the affect regulation process on affective outcomes. For an early preview of the concepts that were examined in Study 2, see Figure 1, p.71.

As noted above, the affect regulation literature is diverse and poorly integrated. The present project was intended to address important questions in this literature, by assessing two particular facets of affect regulation: (1) a multidimensional conceptualisation of emotion regulation (measured with the Difficulties in Emotion Regulation Scale [DERS], Gratz & Roemer, 2004), that includes a range of variables related to an individual’s emotional experience in terms of the way in which this is generally approached and appraised and; (2) specific affect regulation strategies (measured with the ARI; Pirzas, 2006), that captures the deliberate behaviours targeted at regulating affective experience. In broad terms, the project sought to examine which of the types of affect regulation variable were most closely associated and the manner in which they were associated, with affective outcomes: the ways in which individuals generally experience and process their affective states (e.g., how much attention is directed toward emotions, level of clarity and acceptance concerning what is being experienced, their impact on goal-directed and impulsive behaviour, and the extent to which the individual believes they can be modified, measured with the DERS); or specific actions taken by individuals seeking to alter their mood and emotional experience. It is contended that this project’s major advance over existing literature was the explicit recognition of these separable features of affect regulation (as represented in Figure 1) and the effort to develop a more complete model of the affect regulation process than is currently on offer.
1.6 Summary of Chapter One

This chapter has introduced the present project as an investigation of affect regulation with three core components: a comprehensive literature review and two empirical studies. It has been argued that affect regulation is a valuable construct with significant clinical implications. A brief overview of the affect regulation literature was provided, including reference to the different ways in which studies in this area have been conducted. Motivations for affect regulation were reviewed, and the present project’s focus on conscious and effortful affect regulation processes was outlined. Gaps in the literature were highlighted, particularly in relation to definitional and conceptual ambiguities, and the need for consideration of the theoretical overlap between closely related constructs. It was argued that the current project would address gaps in the literature by targeting two types of affect regulation variable (dispositions versus deliberate actions), and testing their relevance to affective outcomes.
PART TWO: REVIEW OF THEORETICAL AND EMPIRICAL LITERATURE
CHAPTER TWO: CLARIFYING THE FUNDAMENTALS

An introduction to the affect regulation construct and literature is continued in the present chapter. Existing definitions of affect regulation are outlined, highlighting the definitional ambiguity surrounding this construct. Closely related concepts, such as mood and emotion regulation, are discussed, and it is argued that greater terminological precision is needed. Existing models, conceptualisations and measurement tools for representing and assessing the affect regulation process are summarised (see Table 1). Assessment issues arising in relation to the choice of measurement tool are considered. This chapter reviews fundamental concepts and issues in the affect regulation literature and introduces the theoretical and empirical foundation for the project’s two empirical studies.

2.1 Affect regulation – current definitions

The affect regulation construct has been defined in numerous ways. In an effort to delineate this construct from the range of other variables that share close conceptual borders, this section outlines some of the definitions presented by researchers who have specifically investigated affect regulation (rather than emotion regulation or coping processes for example).

Westen (1994) proposed a model of affect regulation that integrates research and theory from psychoanalytic, cognitive, behavioural, and evolutionary perspectives on personality. He describes affect regulation as “conscious and unconscious procedures used to maximize pleasant and minimise unpleasant emotions” (p.642). Parkinson and Totterdell (1999) developed a classificatory scheme for strategies of affect regulation, defining this as “any process directed at modifying or maintaining moods or emotions whose operation depends on monitoring of affective information” (p.278). These authors distinguish between automatic and controlled varieties of affect regulation, and specify that their typology focuses on the latter: strategies used by individuals in a deliberate and intentional manner, in an effort to influence their moods and emotional experiences. Wood, Heimpel and Michela (2003) examined the impact of self-esteem on positive affect regulation in particular, and define this as “efforts to savor positive affect but also on efforts to dampen it.” (p.566). Larsen and Prizmic (2004) discuss that of the many proposed definitions of affect regulation,
“most include the notion that, in the process of monitoring and evaluating affective states, individuals take action either to maintain or to change (enhance or suppress) the intensity of affect, or to prolong or shorten the affective episode” (p.40).

In 2006, Kamholz et al. created a broad-based self-report measure of cognitive affect regulation strategies, but did not provide an explicit definition of the concept. It is evident however that the authors assessed an individual’s attempts to reduce distress emotions. Their questionnaire asks participants to indicate “what they generally thought about to improve their mood when sad about an uncontrollable situation” (p.229). Baumann, Kaschel and Kuhl (2007) tested interactions between affect sensitivity and affect regulation in response to positive and negative affect. These authors offer a definition of affect regulation consistent with much of the existing literature, “the ability to self-regulate one’s feelings and thoughts” (p.240), but took a novel approach to examining this construct. Specifically, they differentiated between a self-motivation and a self-relaxation type of affect regulation, and assessed this on a scale that measured decision-related and failure-related action orientation (Action Control Scale, ACS-90, Kuhl, 1994).

In an applied setting, Connelly, Keefe, Affleck, Lumley, Anderson and Waters (2007) tested the impact of individual differences in affect regulation on the experience of pain and other symptoms in rheumatoid arthritis. Affect regulation was defined as “how one controls the experience and/or expression of emotion” (p.162). These authors challenge the trait conceptualisation of affect regulation, and argue that rather than being stable over time, it is a dynamic process that varies with circumstance and emotion. Also in an applied context, Kimball and Diddams (2007) investigated whether affect regulation mediated the relationship between attachment and deliberate self-harm. An explicit definition of affect regulation was not stated, but the concept was measured with five subscales assessing frequency and success of affect regulation strategies, such as: “take a walk”; “talk yourself into a calmer state”; “binge on food”; and “visit a friend” (p.46). These authors consider deliberate self-harm as a maladaptive affect regulation strategy.

Augustine and Hemenover (2009) conducted a meta-analysis to examine the effectiveness of various affect regulation strategies and categories of affect regulation strategy. Affect regulation was defined as “the purposeful alteration of one’s current affective state” (p.1181) and “attempts to modify/maintain affective states for hedonic
or functional (e.g., task performance) reasons” (p.1182). It was proposed that these regulatory efforts occur following a comparison between current and desired affective state. If there is a marked discrepancy between the experienced and desired affect, the individual engages in a regulatory activity or strategy of choice. Barber, Bagsby and Munz (2010) examined affect regulation strategy use patterns that differentiated individuals with varying levels of emotional health. Affect regulation was defined simply: the regulation of one’s moods and emotions. These authors specified that they had assessed a trait-level conceptualisation of the process - the stable individual differences demonstrated by people in terms of their affect regulation style or regulatory preferences. They were interested in the upward regulation of affect, namely, strategies used to increase positive emotions or mood and decrease negative emotions or mood. Also in a recent publication, Jimenez, Niles and Park (2010) propose a model for understanding the link between dispositional mindfulness and depressive symptoms through “three types of affect regulation: emotion regulation, mood regulation and self-regulation”. An explicit definition of affect regulation was not provided, however the authors indicated they conceived of these three specific types of regulatory processes as existing under the broader umbrella of affect regulation.

It is evident that many of the above definitions of affect regulation are not necessarily at odds with one another, and it is possible to identify similarities. There seems to be a degree of consensus that the construct encapsulates a range of either conscious or automatic processes aimed at modifying affective experience. As specified by some authors, these processes may be oriented toward the upward regulation of affect and remediation of a negative affect state or the maintenance or enhancement of a positive affect state. Wood et al. (2003) also investigated the down-regulation of affect however, including efforts at dampening positive affect. These sorts of regulatory attempts were previously discussed by Parrott (1993) in overlapping mood regulation literature. He proposed four possible types of mood regulation: elimination of a bad mood (upward regulation); maintenance of a good mood (upward regulation); elimination of a good mood (down-regulation); and maintenance of a bad mood (down-regulation). In sum, it is apparent that the majority of existing research has focused on conscious, upward regulation processes (e.g., Augustine & Hemenover, 2009; Fichman et al., 1999; Larsen & Prizmic, 2004;
Parkinson & Totterdell, 1999; Thayer et al., 1994). This focus is based on the premise that individuals should be able to report on their intentional affect regulation practices with a reasonable degree of accuracy (Parkinson & Totterdell). The current project also adopted this focus, and tested a range of hypotheses related to deliberate attempts to improve one’s affective state.

2.2 Affect regulation – closely related constructs

There are unclear boundaries between affect regulation and a range of related psychological constructs. In response to this, some authors have contended that a broad conceptualisation of affect regulation can be most profitable, conceiving of this as an overarching category that subsumes a number of related constructs (Gross, 1998; Koole, 2009). These constructs are not identical however, and it is proposed that greater conceptual clarity and careful use of terminology is required. Constructs that have been considered closely related to affect regulation include: mood regulation; emotion regulation; coping; emotional intelligence; experiential avoidance; meta-mood; and negative mood regulation expectancy. Each of these constructs will be addressed and differentiated in turn. Before this, it is useful to demarcate the terms affect, mood and emotion.

2.2.1 Affect, mood and emotion

The term affect has been used to capture a wide variety of phenomena, including both mood and emotion (Parkinson, Totterdell, Briner, & Reynolds, 1996; Rottenberg & Gross, 2007). This term refers to the nature of the feeling tone experienced by an individual at a given point in time (Larsen, 2000; Larsen & Prizmic, 2004; Parkinson et al., 1996). Feeling tones may differ according to hedonic valence but also in terms of experienced level of energy or arousal (Larsen & Prizmic). Many theorists consider affect the superordinate category that subsumes all valenced states such as mood and emotion (Bloch et al., 2010; Gross, 1998; Larsen, 2000; Parkinson et al.). Gross further suggested that emotion episodes (e.g., delivering bad news to a friend), dispositional states (e.g., liking and hating) and traits (e.g., cheerfulness) belong to this category.

A further distinction is commonly drawn between moods and emotions. Emotions (such as fear and anger) tend to be associated with a specific object of focus.
and have a rapid onset and short duration, lasting for seconds only (Bloch et al., 2010; Gross, 1998). In this way, emotions usually have a distinct cause, are experienced as intense, with an identifiable peak (Larsen) and are the focus of conscious awareness (Larsen & Prizmic, 2004). Emotions provide important information about negotiating the environment, and are associated with corresponding approach or avoidance actions. By contrast, moods (such as irritability, boredom and euphoria), tend to be objectless, longer lasting and can comprise a mixture of specific emotions (Bloch et al.; Gross, 1998). Some moods may last for hours, days or even weeks and they often do not have a clear cause or the same “aboutness” of emotions: they can occur without reference to any particular object or event (Larsen). While emotions signal information concerning the external environment, moods are informative about the internal environment. Correspondingly, moods tend to exist in the background of awareness (Larsen & Prizmic). A meteorological analogy has been used to summarise the dynamics of emotions and moods - emotions are like weather, while moods are akin to climate (Gross; Rottenberg & Gross, 2007).

2.2.2 Affect regulation, mood regulation and emotion regulation

By differentiating the concepts of emotion, mood and affect, it is possible to clarify the conceptual relation between affect regulation and two of the most closely related constructs: emotion regulation and mood regulation. Emotion regulation refers to the processes involved in modifying emotional experiences. Arguably, the most influential definition of this construct is proposed by Gross (1998, p.275), who conceives of emotion regulation as “…the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions”. Many researchers have employed this definition (e.g., Amstadter, 2008; Bloch et al., 2010; Cameron & Jago, 2008; Decker, Turk, Hess, & Murray, 2008; Haga, Kraft, & Corby, 2009; Henry, Rendell, Green, McDonald, & O’Donnell, 2008; Kring & Werner, 2004; Mennin, 2004).

The mood regulation literature has not been so dominated by a single definition and conceptualisation of the process. There are however some consistencies in the proposed definitions. In an early study, Morris and Reilly (1987) describe mood regulation in terms of self-regulatory actions that are designed to maintain or eliminate mood. Parrott (1993) defines self-regulation of mood as
referring to the maintenance or inhibition of present mood. Thayer et al. (1994) consider the process as incorporating the tendency to monitor one’s mood states and take actions to self-regulate these to comfortable levels (see also Stevens and Lane, 2001). Fichman et al. (1999) assessed daily mood regulation that comprised efforts at regulating mood in the hope of improving it. Joormann, Siemer and Gotlib (2007) examined mood regulation in depression, and referred to individual differences in the ability to regulate moods, and the intentional and automatic regulation of negative affect.

In the same way that affect is the broad category representing valenced states, the affect regulation construct has been considered to subsume the management of all subjective feeling states (Larsen & Prizmic, 2004). Accordingly, researchers who have affect regulation as their particular focus tend to refer to a range of processes associated with the modification and maintenance of both one’s longer lasting moods and comparatively shorter-term emotional experiences (e.g., Barber et al., 2010; Kamholz et al., 2006; Parkinson & Totterdell, 1999; Larsen & Prizmic, 2004; Totterdell & Parkinson, 1999; Van-Leeson, Totterdell, & Parkinson, 2006).

2.2.3 Coping

A construct that also resides in close theoretical proximity to affect regulation is coping. Indeed, the stress and coping literature can be seen as a scientific precursor to the study of emotion regulation (Gross, 1998). Coping has been defined as “cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984, p.141). Situational variables take centre stage in this literature, shaped by a focus on the interactions between organism and their environment (Gross). It has also been noted that coping literature overlaps with literature on stressful life events, and is concentrated on responses to objective events, both major occurrences and daily life hassles (Larsen, 2000).

Gross (1998) notes that research in emotion regulation incorporates processes related to modification of both positive and negative emotional experiences, whereas the latter is the sole focus of the coping literature. Further, in contrast to affect, mood and emotion regulation, coping considers nonemotional actions taken by the individual to achieve nonemotional goals (Gross). In the coping literature, a
prerequisite for the target demands and challenges under consideration is that they exceed the individual’s resources (Gross). This is not a criterion for investigations of affect regulation processes. Strategies used for affect regulation are conceptualised according to their impact on affect, while coping strategies are classified in terms of their response to negative life events (Totterdell & Parkinson, 1999). Finally, whereas coping is oriented toward objective circumstances, affect regulation is concerned with the subjective: the individual’s response to and regulation of their ongoing affective state (Larsen, 2000).

2.2.4 Emotional intelligence

It is also necessary to distinguish the affect regulation construct from the construct of emotional intelligence (EI). A seminal definition of EI was provided by Mayer and Salovey (1997), namely, “the capacity to reason about emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth”. As discussed by Mayer, Salovey and Caruso (2004), EI is located at the intersection of intelligence and emotion, and is considered a member of a class of intelligences that includes social, practical and personal intelligences. The construct arose in response to a call to broaden the study of intelligence by attending to these specific types, and is conceived of as an intelligence that operates on and with emotional information (Mayer et al., 2004). Defined in this way, it is apparent that while emotional intelligence incorporates regulation of emotional experiences, the concept is broader than affect regulation and has a different focus.

The differences between the constructs of affect regulation and EI are apparent in light of Mayer, Caruso and Salovey’s (2000; Mayer et al., 2004) ability model of EI. This model divides EI into four branches, including ability to: perceive emotion; use emotion to facilitate thought; understand emotions; and manage emotions. The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey & Caruso, 2002) is used to assess these four branches, and consists of eight skills-based tasks, including for example: identifying emotions in pictured faces; comparing emotions to other tactile and sensory stimuli; identifying which emotions would best
facilitate a type of thinking; and indicating how one can manage others’ feelings so a desired outcome is achieved. While one of these tasks has overlap with measures of affect regulation (i.e., the ability to maintain or change feelings in a series of hypothetical scenarios), it is evident that EI is an ability and skills-focused construct that addresses a range of emotion-related phenomena that are not considered part of the affect regulation concept. Affect regulation thus represents a component of EI, specifically, Branch 4, the management of emotions (Mayer et al., 2000; 2004).

It is possible to distinguish the constructs of emotional intelligence and affect regulation in six additional ways. First, in responding to an EI scale, there are “right” or “optimal” answers. This is not the case when assessing affect regulation phenomena, where the suitability or effectiveness of any given strategy or approach depends on the impact it has on the affective state of the individual. Second, EI has been used to predict outcomes including academic performance, deviant and problem behaviour, and engagement in prosocial and other positive behaviours (Mayer et al., 2004). In contrast, the affect regulation construct is generally assessed in relation to well-being and the adaptation of the individual to his or her internal environment. Third, while a focus of EI is the expression and perception of emotion (Mayer et al.), affect regulation is oriented more toward self-regulatory aspects of affective experience. Fourth, EI focuses on emotional processes related to self and other, whereas affect regulation is strictly concerned with responses to one’s own moods and emotions. Fifth, unlike EI, affect regulation does not specifically look at the generation of emotions and use of emotions for personal growth. Sixth, while a study of EI is centered on the aptitude that is emotional intelligence, the broad set of skills related to capacity to reason about emotions, accurately perceive emotions and use these to assist thought and intellectual growth, affect regulation literature looks at the management of one’s mood and emotional experience and instances where this leads to well-being versus psychopathology and other negative outcomes. It is acknowledged however that there is some overlap between these constructs and that EI phenomena would have an impact on affect regulation processes. As proposed by Mayer and Salovey (1995), there is common ground between successful emotion regulation and emotional intelligence. The present project is mindful of the sometimes fine lines distinguishing these concepts.
2.2.5 Experiential avoidance

Another construct that is closely related to affect regulation is experiential avoidance. This has been defined as “the phenomenon that occurs when a person is unwilling to remain in contact with particular private experiences (e.g., bodily sensations, emotions, thoughts, memories, behavioral predispositions) and takes steps to alter the form or frequency of these events and the contexts that occasion them” (Hayes, Wilson, Gifford, Follette and Strosahl, 1996, p.1154). It has also been described more simply as an unwillingness to tolerate one’s own distress (Tiwari, Podell, Martin, Mychailyszyn, Furr, & Kendall, 2008). The experiential avoidance concept originated from the long-standing idea that avoiding negative affect influences psychopathology (Chawla & Ostafin, 2007), and the concept represents an integration of literature from experimental, clinical process, styles of coping, experimental psychopathology, and syndromal and nonsyndromal research areas (Hayes et al., 1996).

The overlap between experiential avoidance and affect regulation constructs is highlighted in the cognitive and behavioural strategies and activities examined in these two literatures. For example, Hayes et al. (1996) discuss that experiential avoidance incorporates avoidant and escape-oriented activities. Strategies discussed by researchers in this field include thought suppression and control, emotional suppression and cognitive reappraisal (Chawla & Ostafin, 2007). For example, researchers have investigated the effects of excessive drinking and drug use on psychopathology outcomes, referring to these as “classic examples of harmful avoidance strategies” (Chawla & Ostafin, p.872). Similarly, these activities are considered by studies in affect regulation, in which their impact on health and well-being are tested.

An assumption of the present project was that the concept of affect regulation is broader than experiential avoidance. In particular, experiential avoidance is a concept that represents a set of maladaptive cognitive and behavioural responses to one’s internal experiences, including bodily sensations, emotions, thoughts and memories, which have been demonstrated to contribute to development and maintenance of psychopathology (Chawla & Ostafin, 2007; Hayes et al., 1996; Tull & Gratz, 2008). In contrast, the affect regulation construct refers to an individual’s regulatory response to their mood and emotional experiences and how these impact a
range of health and well-being outcomes. While experiential avoidance considers the breadth of an individual’s internal experiences, affect regulation is concerned with just affective experiences, and while the focus of the former is how this contributes to development and maintenance of psychopathology, the latter is examined in relation to both positive and negative outcomes for the individual.

Finally, it is interesting to note that some authors refer to experiential avoidance as a form of emotion dysregulation (e.g., Tull & Gratz, 2008). These authors examined the role of an “emotion dysregulation-related mechanism” (p.207) in the relationship between anxiety sensitivity and symptoms of depression, considering the experiential avoidance construct to represent a particular maladaptive response to one’s emotional experiences. Correspondingly, this project assumes that some strategies assessed in the emotion, or affect regulation literatures constitute a form of experiential avoidance and can be viewed as an attempt by the individual to disengage from unpleasant affective experience.

2.2.6 Meta-mood

An additional construct that is very closely associated with affect regulation is meta-mood. Salovey, Mayer, Goldman, Turvey and Palfai (1995) developed the self-report Trait Meta-Mood Scale (TMMS), which conceptualises self-report EI as consisting of three meta-mood dimensions: level of attention to, and clarity and repair of emotions. This instrument arose from work on the State Meta-Mood Scale (SMMS), which assesses moment-by-moment thoughts and reflections about ongoing moods. The TMMS, in contrast, is a measure of stable individual differences in ability to reflect upon and manage emotional experiences. It captures level of attention directed toward emotions, level of clarity concerning emotional experiences and the nature of beliefs about the capacity to terminate a negative mood state or prolong a positive state (mood repair). Salovey et al. (1995) describe the trait meta-mood construct as capturing the individual’s reflective mood experience.

Important associations have been demonstrated between meta-mood dimensions and clinical outcomes. For example, Salovey et al. (1995) reported that higher rates of depression have been associated with low clarity, high attention, and low mood repair (i.e., beliefs that negative moods could not be repaired). Greater clarity and higher mood repair scores (i.e., stronger beliefs that negative moods could
be resolved) have been further associated with reduced vulnerability to distress reactions, and low levels of clarity have been related to higher neuroticism. These authors also referred to daily experience sampling findings demonstrating that everyday experience of positive and negative mood is associated with the three meta-mood dimensions, and a further study indicating that attention and repair influence reporting of physical symptoms and illness during times of stress. Summarising these findings, Salovey et al. argue that the dimensions of the trait meta-mood construct represent a key component of the self-regulatory domain of emotional intelligence.

In the current project, it is contended that the constructs of affect regulation and meta-mood have distinct core foci. Rather than considering the specific strategies used by an individual for regulating their mood and emotional experiences, as is the case with measures in affect regulation, meta-mood is primarily concerned with an individual’s perceived ability to modulate moods as desired. For example, items from Salovey et al.’s (1995) meta-mood repair subscale include: “Although I am sometimes sad, I have a mostly optimistic outlook”; “When I become upset, I remind myself of all the pleasures in life” and “When I am upset, I realise that the good things in life are illusions” (reverse-scored). These items are intended to capture the extent to which an individual believes they can repair unpleasant moods or maintain pleasant ones, rather than the specific ways in which this modulation of mood is achieved.

The mood repair dimension of the meta-mood construct is sometimes characterised as negative mood regulation expectancies (Catanzaro & Mearns, 1990, 1999; Catanzaro, Wasch, Kirsch, & Mearns, 2000). For instance, Wood et al. (2003) were interested in factors associated with the savouring versus dampening of positive affect. These authors used Catanzaro and Mearns Negative Mood Regulation expectancy scale (NMR; 1990, 1999) to assess what they referred to as mood repair, or expectancies for effectively coping with negative mood. They also classified this scale as one of the “affect regulation measures” in their study. It is evident that the NMR construct is an alternate conceptualisation of the concept of mood repair and is closely associated with the affect regulation concept.

In their exploration and development of the NMR scale, Catanzaro and Mearns (1990) referred to it as capturing beliefs about behaviours or cognitions that alleviate a negative mood state. They further suggest that NMR assesses “a person’s secondary appraisal of his or her coping resources” (p.559). The authors propose that
these expectancies are self-confirming, in that they predict the likelihood that one will be successful in remediating unpleasant affect, and that specific expectancies for positive and negative mood states are strong predictors of those moods (Catanzaro and Mearns, 1999). Indeed, relationships have been found between higher NMR expectancies and reduced depression, anxiety and physical illness (Catanzaro et al., 2000).

It has also been found these NMR beliefs predict the particular coping responses initiated when facing a life problem, as well as effectiveness of that coping. For example, higher mood-related expectancies have been associated with greater use of beneficial active coping strategies (example items include “treated myself to something I liked”, “went out with friends” and “found humour in the situation”) and less frequent use of maladaptive avoidant responses (example items include “refuse to believe that it happened”, “tried to reduce tension by drinking more” and “took it out on other people when I felt angry or depressed”) (Kirsch, Mearns, & Catanzaro, 1990). Moreover, John and Gross (2004) identified that emotional suppression strategies were associated with lower scores on each meta-mood dimensions (clarity, attention and repair) whereas cognitive reappraisal was related to higher levels of mood repair. In this way, Catanzaro et al. assert that NMR expectancies are associated with well-being by virtue of their indirect association with greater use of adaptive coping and regulation strategies, in addition to their direct influence on negative mood states.

In light of the above, it is important to distinguish the constructs of meta-mood and negative mood regulation expectancy from affect regulation. As discussed, the former two constructs are generally understood to capture dimensions of self-reported emotional intelligence, and are oriented toward an individual’s reflective mood experience. The mood repair dimension of meta-mood and the concept of NMR specifically tap into beliefs concerning ability to modulate negative mood states. It is therefore evident that the constructs have a slightly different focus to the broader affect regulation concept. It can be argued that the dimensions of meta-mood, and concept of NMR expectancies, could be subsumed within the concept of affect regulation. This idea is discussed in greater depth in subsequent sections of the thesis, and forms the basis of one of the core analyses in Study 2.
2.2.7 Summary of thesis position

The wide range of constructs closely associated with the affect regulation concept have been outlined. While some authors refer to the empirical boundaries between these constructs as blurred (Koole, 2009; Russell, 2003), a number of differentiating characteristics have been identified. It is suggested that in order to advance understanding of affect regulation and what this construct encapsulates, it is also necessary to clarify what affect regulation is not. This task has been the focus of the preceding discussion. As stated above, there are notable distinctions between affect regulation and the constructs of coping, EI, experiential avoidance and meta-mood. These latter constructs will not be referred to again in this thesis. Just as the term affect is considered to subsume both moods and emotions, the present investigation of affect regulation necessarily takes into account the regulation of both mood and emotional states. This is a central definition of the present thesis and is discussed further in 5.1.

2.3 Affect regulation – existing models and conceptualisations

This section discusses nine prominent models of affect regulation, and considers the scientific impact of these works (operationalised in citation rates, taken from Web of Science). In light of the theoretical relatedness of mood and emotion regulation, organising frameworks from these literatures are also reviewed. The historical backdrop underpinning the project is presented and the many different approaches to the phenomena of affect, mood and emotion regulation are outlined.

The mood regulation research of Morris and Reilly (1987) sought to identify the various behaviours used for mood and emotional modification. Following a review of existing findings, these authors specified four broad categories of activity designed to self-regulate mood: management of the mood (including use of self-reward, alcohol, distraction and expressive behaviour); modification of the meaning or significance of the problem (modulation of emotional reactions with cognitive processes); problem-directed action (behaviours intended to act on the suspected cause of the mood); and affiliation (seeking out social contact). This checklist of mood regulation strategies was later formulated into an 11-item assessment instrument, the Mood Strategies Inventory (MSI; Larsen 1993, see Table 1, p.32) and adopted by Fichman et al. (1999) in their daily experience sampling study of mood
regulation and depression. This work by Morris and Reilly has had a substantial impact in the literature, having been cited 111 times.

Dodge and Garber (1991) approach emotion regulation from a developmental perspective, with discussion oriented around developmental psychopathology and emotion dysregulation. These authors conceptualise emotion regulation as having three forms: (1) interdomain emotion regulation (activation in one response domain that serves to alter or modulate activation in another response domain); (2) intradomain emotion regulation (modulation of one aspect of responding in a domain according to another aspect of responding in the same domain, such as vagal tone or the regulation of heart rate by respiration) and; (3) interpersonal emotion regulation – (which notes the regulatory interaction that occurs with one’s environment, particularly in infancy). This work by Dodge and Garber has been cited 31 times, mostly by authors exploring emotion regulation and dysregulation processes in childhood.

Westen’s (1994) model of affect regulation integrates theory and research from psychoanalytic, cognitive, behavioural, and evolutionary perspectives. Westen proposes that his model could be employed to understand how individuals process emotionally significant information about themselves, others and their relationships. Key deductions from this model include that behaviours and cognitions maximising pleasant and minimising unpleasant emotions will be repeated in future situations; that individuals frequently distort information about themselves and others to reflect their desires and wishes; that people regulate multiple affects simultaneously; and that affect is regulated in the interests of promoting adaptive behaviour and functioning as dictated by evolution. Westen’s work has been cited 40 times, including by a mix of emotion, mood or affect regulation-specific writers.

Following an extensive investigation of a wide range of activities used to improve moods, and subsequent development of a 29-item mood regulation strategy checklist (see Table 1), Thayer et al. (1994) present a series of alternate conceptualisations of the common dimensions underlying these strategies. Three- and six-factor solutions for capturing the strategies are offered, including such categories as Active Mood Management; Seeking Pleasurable Activities and Distraction; Passive Mood Management; Social Support, Ventilation and Gratification; Direct Tension Reduction; and Withdrawal-Avoidance. Different models were produced according
to the particular affect the individual was seeking to regulate, namely, to change a bad mood, enhance energy or reduce stress and tension. The focus in this work was the relative effectiveness of the regulating strategies and the frequency with which these were employed. This article has since been cited many times (168), particularly in studies investigating the effects of specific affect regulation strategies on well-being outcomes.

Gross (1998) developed what has become a highly influential model of emotion regulation. The model describes a sequence of processes involved in emotion generation, all of which are targets for regulation. Specifically, Gross suggests there are five points at which the individual can engage in a regulatory response and five related families of emotion regulation processes: situation selection (i.e., approach or avoidance of certain situations and people to regulate emotions); situation modification (i.e., situation is modified according to desired emotional impact); attentional deployment (i.e., direction of attention to a chosen aspect of the situation); cognitive change (i.e., application of a particular meaning to the situation); and response modulation (i.e., emotional response tendencies, including behavioural, experiential and physiological, influenced after the emotion has been elicited). A sizeable portion of Gross’ work has focused on individual differences in two particular emotion regulation strategies, namely, antecedent-focused cognitive reappraisal and response-focused emotional suppression (see Table 1 for associated measure developed by this author). Gross’ model has been dominant in the literature, being cited 451 times to date.

Parkinson and Totterdell (1999) used hierarchical cluster analysis to generate a classificatory scheme for their identified 162 distinct affect regulation strategies. These authors discuss that many of the categories of affect regulation identified in their study were consistent with previous findings. They contend their conceptualisation (see Table 1 for their associated measure) represents an advance on prior work however, as it reflects people’s spontaneous understandings of affect regulation rather than preconceived theoretical notions. Further, it is based on conceptual distinctions between strategies rather than their perceived effectiveness or level of usage. The developed typology distinguishes first between strategies that are cognitively oriented and those that are behavioural, and then differentiates between diversion and engagement strategies. That is, regulation strategies are categorised
according to whether they are designed to divert attention away from unpleasant affect or directly engage with the affect. Parkinson and Totterdell’s scheme has been cited 56 times.

Larsen (2000) proposed a model of mood regulation based on principles of control theory, which looks at actions intended to maximise pleasure and minimise psychic pain. The paper has been cited 119 times. His control theory model of mood regulation has four core assumptions: (1) People have a desired subjective state, their set point; (2) This desired state is regularly compared to their current state; (3) If there is a discrepancy, cognitive or behavioural regulatory mechanisms are employed to reduce this; (4) These mechanisms may cause change in the environment (e.g., direct problem solving) or change in the person (e.g., distraction, social comparison).

Larsen specified six points in his model where individual differences may be apparent: level of attention the individual directs to affective cues in the environment; mood regulation strategies engaged in and their frequency and successfulness; individual’s level of reactivity to affective stimuli; individual’s level of sensitivity to their current affective state; how often and at what level of sensitivity the individual compares their current state to their desired state; differences between people in terms of set point or desired emotional state, e.g., some individuals may desire stronger affective states and be less likely to engage in a regulatory action in these instances. Larsen’s taxonomic work led to the development of a mood regulation strategies measure (see Table 1).

Based on existing literature, Kamholz et al. (2006) identified a taxonomy of cognitive affect regulation strategies, and across three studies, developed this into a self-report measure, the “Inventory of Cognitive Affect Regulation Strategies” (ICARUS, see Table 1). This measure identifies fifteen categories of cognitive affect regulation strategies, including: acceptance of the situation; reframing and growth; acceptance of feelings; analysis of feelings and situation; positive thoughts; religious thoughts; futile planning; self-criticism/self-blame; thought suppression/mental distraction; downward comparison and reality testing; mindful observation; blaming others; minimizing importance; mental disengagement; and thoughts of suicide. This work has since been cited only once.

As outlined above, the literature contains a diverse range of existing conceptualisations of affect regulation. An objective of the current project was to
draw from key components of this existing work and identify an informative model of affect regulation that incorporates fundamental elements of the construct and is useful in predicting affective outcomes.

2.4 Affect regulation – implications of choice of measurement tool and some assessment options

As discussed above, a variety of conceptualisations of the affect regulation process have been presented. There also exist several options for measurement. Sloan and Kring (2007) outline considerations to take into account when selecting emotion-related measures for use in psychotherapy research and practice. They refer to the importance of specificity in the definition of emotion and emotion regulation and employing a measure that clearly reflects this, and discussed the benefits of assessing multiple components of emotional responding so as to capture the complexity of these constructs. These authors consider a range of difficulties and limitations associated with the use of emotion process measures. Such difficulties include the lack of clear cutoff scores for determining when a particular emotion process is maladaptive and that existing measures are not suitably sensitive or do not tap into gender and cultural factors contributing to the adaptiveness or otherwise of emotion processes.

A researcher’s stance concerning the temporal stability of affect regulation may also inform choice of measurement tool. Affect regulation has been understood, on one hand, as a state-like dynamic process, shaped by situational and contextual factors or whether it is a static process, and dispositional or traitlike affect regulation style (e.g., see Larsen & Prizmic, 2004). The particular conceptualisation of affect regulation influences which measure would be most appropriate, and the level of test-retest stability expected.

Watson and Hubbard (1996) discussed these issues in their review of the related field of coping, remarking on the tension between situational and dispositional conceptualisations. They observed that the former arose in the 1970’s and early 80’s when it was found that coping “traits” were poor predictors of coping responses in specific contexts. Watson and Hubbard contend that while this era of situational coping research was energetic and influential (e.g., see Folkman & Lazarus, 1980, 1985), the trait or dispositional approach became the focus of renewed interest
following two decades of puzzling and paradoxical findings retrieved by situational accounts. These authors propose that coping strategies have traitlike characteristics, demonstrating stable individual differences over time and across situations. Indeed, in the coping field, coping measures have been developed in both dispositional and situational forms (e.g., the COPE; Carver, Scheier, & Weintraub, 1989), where item wording is altered to reflect the form of coping under examination.

From the related emotion regulation field, Bridges, Denham and Ganiban (2004) raise additional assessment and measurement issues. Referring to the diversity in emotion regulation measures, Bridges et al., note there is often no clear link between the manner in which emotion regulation is assessed and underlying theoretical constructs the researcher is seeking to examine. They suggest five issues to be considered when choosing an emotion regulation measure. First, are types of strategies or total amount of strategy use being assessed? If total amount is assessed, there may be an implicit assumption that more regulation equates with better regulation. Second, how distinct are the measures of emotional expressiveness and those of strategy use? If this is not clear, there can be a confound in testing the relationship between strategy use and emotional expressiveness. Third, the time-frame for measuring strategy use and its impact on emotion must be considered, because emotion regulatory behaviours may not necessarily have an immediate effect on emotions but this could be lagged. Fourth, is the study examining the regulation of discrete or global emotional experiences? The regulation of discrete emotions may be preferable, because different emotions such as fear and anger may elicit different repertoires of regulation strategies. Fifth, what are the criteria that determine when an emotion is being regulated? There is debate concerning the delineation of when emotion regulation is occurring and when some behaviour employed in an emotion-eliciting situation can be considered a regulation strategy. Bridges et al. (2004) also raise concerns about judgements of emotion regulation strategy effectiveness. They contend that because there is still minimal understanding of the natural course of the emotion regulation process, it is premature to assume that the immediate impact of strategies on emotional experience is indicative of the effectiveness of that strategy. In sum, these authors argue that greater attention must be paid to measurement decisions in research design. Further, they suggested that deeper consideration of theoretical constructs in relation to empirical measures is required.
In a similar vein, Rottenberg and Gross (2007) contend it is crucial that theoretical and methodological objectives be clarified before selecting an assessment tool. Interestingly, these authors further propose that given the heterogeneity of the domains of emotion and emotion regulation, multiple measures may be required. A range of the existing emotion-, mood- and affect regulation measures are detailed below in Table 1. Numerous measures that could be used to assess regulation of affect are not discussed here, such as via the alternate constructs of emotional intelligence and experiential avoidance. For conceptual clarity, this discussion is limited to measures presented in the emotion, mood and affect regulation-specific literatures. In keeping with the current study methodology, only measures based on self-report are considered.
<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Name of measure</th>
<th>Nature of measure - as described by author(s)</th>
<th>Number of items</th>
<th>Example items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rippere</td>
<td>1977</td>
<td>None stated</td>
<td>Cognitive and behavioural strategies reflecting everyday knowledge about coping with negative affect</td>
<td>116</td>
<td>See people, a friend; Do something you enjoy; Stick to one’s normal routine</td>
</tr>
<tr>
<td>Larsen (based on work</td>
<td>1993</td>
<td>Mood Strategies Inventory</td>
<td>Strategies used by individuals for the self-regulation of mood</td>
<td>11</td>
<td>Looking forward to the weekend or to the winter holidays; Crying if you are sad, or yelling if you are angry; Making yourself feel better by eating, drinking, smoking, or shopping</td>
</tr>
<tr>
<td>Nolen-Hoeksema &amp;</td>
<td>1991</td>
<td>Response Styles Questionnaire</td>
<td>Cognitive and behavioural strategies employed when feeling down, sad or depressed</td>
<td>71</td>
<td>Think about how alone you feel; Think about your feelings of fatigue and achiness; Analyse recent events to try to understand why you are depressed</td>
</tr>
<tr>
<td>Morrow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thayer et al.</td>
<td>1994</td>
<td>None formally stated, but was referred to as</td>
<td>Behaviours and strategies designed to self-regulate bad moods, raise energy and reduce tension</td>
<td>32</td>
<td>Engage in emotional activity; Go shopping; Tend to chores</td>
</tr>
<tr>
<td>Totterdell &amp; Parkinson</td>
<td>1999</td>
<td>None formally stated, but was referred to as</td>
<td>Cognitive and behavioural self-regulation strategies for improving mood</td>
<td>10</td>
<td>Do something else: relaxing/enjoyable; Do something else: energetic/active; Let my feelings out.</td>
</tr>
<tr>
<td>Author</td>
<td>Year</td>
<td>Name of measure</td>
<td>Nature of measure - as described by author(s)</td>
<td>Number of items</td>
<td>Example items</td>
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</tr>
<tr>
<td>Garnefski et al.</td>
<td>2001</td>
<td>Cognitive Emotion Regulation Questionnaire</td>
<td>Cognitive strategies used for emotion regulation</td>
<td>36</td>
<td>I think that I have to accept that this has happened; I dwell upon the feelings the situation has evoked in me; I feel that others are to blame for it</td>
</tr>
<tr>
<td>Gross &amp; John</td>
<td>2003</td>
<td>Emotion Regulation Questionnaire</td>
<td>Suppression and reappraisal strategies used for regulating negative and positive emotions</td>
<td>10</td>
<td>I control my emotions by changing the way I think about the situation; I keep my emotions to myself</td>
</tr>
<tr>
<td>Larsen &amp; Prizmic</td>
<td>2004</td>
<td>Measure of Affect Regulation Styles</td>
<td>Cognitive and behavioural acts used in the regulation of emotion</td>
<td>32</td>
<td>I tried to understand my feelings by thinking and analysing them; I used alcohol to get out of a bad mood; I slept or took a nap</td>
</tr>
<tr>
<td>Kamholz et al.</td>
<td>2006</td>
<td>Inventory of Cognitive Affect Regulation Strategies</td>
<td>Cognitive strategies used for self-regulating affect</td>
<td>15</td>
<td>I reminded myself of pleasant things; I thought about how I felt over and over again; I tried to forget the whole thing</td>
</tr>
</tbody>
</table>
2.5 Summary of Chapter Two

This chapter has reviewed definitions, models and measurement issues in the affect regulation literature. It was contended that given the diversity of definitions of affect regulation and the number of closely related constructs, it is imperative that researchers are specific in describing the construct under investigation. It was noted that there is some agreement that affect regulation refers to a range of conscious or automatic processes engaged in by the individual when seeking to modify affective experience, and that the majority of existing research has focused on upward regulation of affect.

The chapter outlined key existing conceptualisations of affect regulation. This highlighted the variety of possible approaches for investigating this subject area, but also the confusion in the literature with regard to how best to represent the construct and explicate its fundamental components. Similarities in the existing affect regulation models were highlighted, including the consideration of cognitive and/or behavioural strategies that may be employed for self-regulation of affect. It is evident however that there is no dominant paradigm in the literature and this is problematic for integrating findings across studies.

The multiplicity of views on affect regulation lead, not surprisingly, to a plethora of affect regulation assessment tools. The major affect, mood and emotion regulation measures on offer were presented at the conclusion of the current chapter. By drawing on some of these key existing theories and models in the literature and being specific with the targeted construct under investigation, the present project sought to develop a detailed conceptualisation of affect regulation that is informative with regard to outcomes for the individual, and that provides leverage for improving these outcomes.
CHAPTER THREE: CORRELATES OF AFFECT REGULATION

This chapter reviews two aspects of the affect regulation literature that have particular relevance for the present project. First, findings concerning the impact of affect regulation processes on affective outcomes are discussed, focusing on two recent meta-analytic studies. This project adopted a novel comprehensive approach in the assessment of “affective outcomes”, with separate investigation of positive (psychological well-being) and negative (psychological distress) components (see also section 5.2). Second, literature on individual differences in affect regulation processes is reviewed. The aim of this chapter is to critically review existing findings and highlight subject matter pursued in this project.

3.1 Affect regulation and outcomes

A significant prediction made in the literature is that affect regulation processes affect health and well-being outcomes. Two recent meta-analytic studies summarised empirical findings on this important question. Augustine and Hemenover (2009) report findings related to effectiveness of various affect regulation strategies or categories of strategies from 34 studies. Across the studies, increase in positive affect or decrease in negative affect (referred to as affect repair) was the outcome variable. The authors found that affect regulation strategies did indeed influence affective outcomes. Specifically, strategies involving reappraisal or distraction were most effective for affect repair. They also identified moderators of the relationship between affect regulation strategies and affect repair, including intensity and valence of pre-regulation affect, length of the regulation attempt and gender composition of the sample.

In terms of categories of strategies, Augustine and Hemenover (2009) found that findings differed according to whether or not the study had utilised an affect induction procedure. Analysis of effect sizes across all 34 studies found that behavioural strategies produced a greater shift in affect compared to cognitive strategies. Augustine and Hemenover suggest this may be due to ease of use of behavioural compared to cognitive strategies. In addition, there was no difference in affective outcomes associated with strategies of engagement versus strategies of avoidance.
When analyses were restricted to studies that employed a negative affect induction or no affect induction (as opposed to a positive affect or neutral induction), Augustine and Hemenover (2009) found no difference between cognitive and behavioural strategies in terms of impact, and avoidance strategies were shown to be more effective than engagement strategies. The authors conclude that the former finding requires further research, and interpreted the latter once again in relation to ease of use: avoiding and removing oneself from an unpleasant affective state or situation requires less effort than directly engaging with the causes and consequences of the state. While Augustine and Hemenover suggest these results related to the superordinate strategy categories were somewhat confusing, their findings from a lower level of analysis (i.e., specific strategies) were more straightforward and clearly demonstrated the benefits of the specific strategies of distraction and reappraisal.

Augustine and Hemenover’s (2009) work is illuminating in that it is one of a few meta-analytic studies that have been produced in this area, and the authors have neatly organised their analysis around categories of affect regulation strategies commonly discussed by writers in this field. Their empirical summary is informative in terms of reporting on the differential effectiveness of strategies, and highlighting the areas that had not to-date received much research attention, e.g., the impact of individual differences in affect regulation. In order to assess outcomes associated with affect regulation activities, these authors created a ‘conglomerate hedonic change score’. That is, effectiveness of strategy or category of strategy was determined by hedonic shift (increase in PA or decrease in NA). While this type of outcome variable was an efficient way of organising the data from a large study such as a meta-analysis, this leaves open the question of how the strategies in their analysis may have been related to other more specific tools for mood and well-being. The next meta-analytic study addresses this however, as associations between strategies and particular psychopathologies are examined.

Aldao et al. (2010) examined the relationships between six emotion regulation strategies (acceptance, avoidance, problem-solving, reappraisal, rumination and suppression) and symptoms of four psychopathologies (anxiety, depression, eating, and substance-related disorders) across 114 studies. A core aim in this meta-analysis was to investigate the prediction that regulation strategies of reappraisal, problem-solving and acceptance are protective against psychopathology whereas suppression,
avoidance and rumination are risk factors. Findings generally supported predictions: reappraisal, problem-solving and acceptance were related to less psychopathology whereas suppression, avoidance and rumination were related to more psychopathology.

Beyond these major findings, Aldao et al. (2010) highlight some complexity in the pattern of effect sizes. Specifically, putatively maladaptive strategies were more strongly associated with psychopathology than were putatively adaptive strategies. A large positive effect size was identified for the association between rumination and risk of psychopathology, followed by a medium to large positive effect size identified for avoidance and suppression. A medium to large negative effect size was also found for the relation between problem solving and psychopathology. In contrast, a small to medium negative effect size was found for the association between reappraisal and acceptance and risk of psychopathology. Aldao et al. (2010) provisionally conclude that engaging in maladaptive emotion regulation strategies is more harmful than the relative absence of adaptive emotion regulation strategy use. Problem solving appeared to be an exception to this, as a moderate negative effect size relationship was found between this strategy and reduced psychopathology.

Aldao et al. (2010) further identified that emotion regulation strategies were more strongly associated with some psychopathology symptom clusters than others. For example, stronger relationships were found between examined strategies (including rumination, avoidance and reappraisal) and mood disorders (i.e., anxiety and depression) than the externalising disorders (i.e., eating and substance-related disorders). Furthermore, it was found that relationships between some strategies (i.e., rumination, suppression, avoidance and problem-solving) and outcomes were moderated by sample type and age. Specifically, studies that utilised a clinical sample revealed a stronger association between strategies and propensity to psychopathology compared to studies without clinical participants, and studies based on adult compared to children/adolescent samples also evidenced stronger relationships between strategies and outcomes. The authors conclude that certain emotion regulation strategies (i.e., rumination, avoidance, suppression and problem solving) are more closely associated with mental health outcomes than others (i.e., reappraisal and acceptance). They contend these results were surprising given the prominence of reappraisal and acceptance strategies in a range of psychotherapeutic approaches. As
noted above, it was also concluded that a number of the strategies were more closely associated with symptoms of mood disorder rather than eating and substance-related disorders.

3.2 Affect regulation and individual differences

The possibility that there are systematic individual difference moderators of affect regulation has been investigated in a number of studies. Gender and personality traits have received the most attention.

3.2.1 Gender

Gender differences in affect regulation strategy use

It has commonly been hypothesised that there are gender differences in affect regulation processes, particularly strategy use patterns. Findings in this area are varied and show in some cases that women are more proficient regulators of their affect, and in other cases that men make use of the more adaptive strategies.

Nolen-Hoeksema (1987, 1991, 2000, 2002) and colleagues’ (Nolen-Hoeksema & Morrow, 1991, 1993; Nolen-Hoeksema, Larson, & Grayson, 1999; Nolen-Hoeksema & Rusting, 1999; Nolen-Hoeksema & Corte, 2004) work on Response Styles Theory (RST) has provided an influential perspective on gender differences in affect regulation. This work, proposes that well-recognised higher rates of depression in women are partly due to the different ways in which men and women respond to their mood and emotional states. Specifically, RST proposes that women amplify their negative moods and depressed states by responding to them with passivity and rumination, while men tend to engage in distracting behaviours and activities when seeking to regulate their mood, thereby dampening and alleviating the unpleasant affect. Findings have generally supported RST, with studies showing that women are more likely than men to endorse use of passive and ruminative emotion-focused strategies when experiencing a depressed mood and in turn, experience longer and more severe periods of depressed mood (e.g., Butler & Nolen-Hoeksema, 1994; Nolen-Hoeksema & Morrow; Nolen-Hoeksema et al., 1999).

RST has been refined in more recent publications (e.g., Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008; Nolen-Hoeksema & Hilt, 2009). Specifically, Nolen-
Hoeksema and Hilt discuss recent data indicating that while the gender difference in depression remains, with women being twice as likely to meet criteria for major depressive disorder (MDD) or dysthymic disorder at some point in their lives, this difference has been attributed to women experiencing more first onsets of depression rather than longer or recurrent episodes. Further to the original formulation of RST, which posits women are more likely to develop a depressive disorder because of greater rumination when in a negative mood, Nolen-Hoeksema and Hilt highlight that studies have recently specified rumination predicts new onsets but not duration of major depression. They argue that this finding parallels the current data suggesting women have a greater number of first onsets but not longer episodes of depression.

Not all studies have found support for RST (Nolen-Hoeksema, 1987; 1991). For example, some studies have found no gender difference in the use of ruminative and distracting strategies for the regulation of affect (Bagby et al., 1999; Kamholz et al., 2006; Rivers, Brackett, Katulak, & Salovey, 2007). Furthermore, it has been reported that women make greater use of a range of adaptive coping strategies in response to their negative moods, including distraction and problem-solving approaches (Knowles, Tai, Christensen, & Bentall, 2005).

The aforementioned meta-analysis of Augustine and Hemenover (2009) also generated data on gender differences in affect regulation. These authors found that men experience less frequent and less intense emotions, and are less reactive than women to affective stimuli. In turn, it was found that men report lower levels of affect repair following engagement in a regulation strategy, potentially because they have less negative affect to modify or repair in the first instance. The authors also discuss inconsistencies in gender differences in the use of affect regulation strategies, and point to data showing men are more likely to endorse the use of some ineffective strategies such as suppression but not others, such as rumination (e.g., see Gross & John, 2003).

In their comprehensive investigation of mood self-regulation strategy use, Thayer et al. (1994) found gender differences in the use of some specific strategies. In a combined undergraduate student and retirement community club sample, females indicated they were more likely to engage in an emotional activity, go shopping, eat something and call, talk to, or be with someone, when seeking to regulate a bad mood. Males showed greater endorsement of controlling their thoughts, having sex, using
humour and engaging in a hobby when they wanted to improve a bad mood. In terms of their devised mood regulation categories, Thayer et al., found men were more likely to use strategies comprising “Seeking pleasurable activities and distraction” or those comprising “Direct tension reduction”. In contrast, women were more likely to employ the strategies of “Passive mood management” or “Social support, ventilation, and gratification”. Thayer et al. conclude that their results showed clear gender differences in selection of mood self-regulation strategies. It is noted that these differences appear generally supportive of Nolen-Hoeksema’s (1987, 1991) RST.

A range of more recent findings further highlight the complex evidence in this area. For example, in a large Croatian sample ($N = 891$), Lipovcan, Prizmic and Franc (2009) found gender differences in affect regulation strategy use, as hypothesised. Specifically, their results showed that females were more likely to engage in venting and rumination strategies when regulating negative feelings. In an undergraduate student sample ($N = 398$) Kamholz et al. (2006) found females showed greater endorsement of using religious thoughts (e.g., “I sought God’s help”; “I prayed”) to regulate affect. In an investigation of the use of cognitive reappraisal and expressive suppression (measured with Gross & John’s Emotion Regulation Questionnaire or ERQ, 2003) in an international undergraduate sample ($N = 489$), Haga et al. (2009) found that while men scored higher on the suppression scale, there were no significant gender differences in use of cognitive reappraisal for affect regulation. This negative finding was also found by the authors of the ERQ, Gross and John, who reported that men scored significantly higher on their suppression scale, and no consistent gender differences in the use of cognitive reappraisal. Finally, Flynn, Hollenstein and Mackey (2010) also found in an undergraduate sample that males were more likely to engage in expressive suppression. Interestingly, this study found that the well-reported association between suppression and negative outcomes such as depression (e.g., Gross & John, 2003; John & Gross, 2004) was limited to the males of their sample.

A range of findings concerning gender differences in affect regulation have been presented. These were discussed in the context of a dominant theory, Nolen-Hoeksema’s (1987, 1991) RST, with both conflicting and supportive evidence. While some of the latest data (e.g., see Nolen-Hoeksema & Hilt, 2009) concerning gender
differences in depression supports RST, more investigation of gender differences in affect regulation strategy use, including rumination, is needed to clarify this area.

**Gender as moderator of strategy impact on affective outcomes**

The notion that gender moderates the association between affect regulation strategy use and affective outcomes has also received some research attention. For example, Austenfeld and Stanton (2004) found that men and women reported using different strategies for regulating their affect, and that affective outcomes associated with these strategies differed according to gender. These authors argue that “emotional approach coping”, characterised by coping efforts directed at acknowledging, expressing and exploring one’s emotional experiences, has clear well-being benefits for women, but the effects of this coping have been less clear for men. They refer to studies that have revealed this type of coping to be of harm to young men, and other studies showing coping through emotional approach to yield even greater well-being benefit to men than women. Austenfeld and Stanton contend that gender appears to be an inconsistent individual difference moderator of the effects of coping strategies, and future research may need to also consider sociodevelopmental factors, the nature of the particular stressor or emotional difficulty, and the relevance of gender-related factors to that stressor.

From a coping framework, Baker and Berembaum (2007) also considered whether particular coping strategies interact with gender to predict outcomes. They found that strategies were differentially effective according to gender, and further, that the outcomes associated with total time spent engaged in coping activities were different for men and women. Specifically, engaging in more coping resulted in more Positive Affect for males, whereas engaging in lower levels of coping produced more Positive Affect for females. Additionally, use of the two particular coping styles investigated by these authors, problem- and emotion- focused coping were related to lower Positive Affect for women. Baker and Berembaum contended that greater time spent engaged in coping activities of all types may provoke hypervigilance to one’s emotions and increased rumination among women, who already exhibit a greater propensity toward this as compared to men. Rumination, in turn, has been found to worsen affective outcomes.
The meta-analysis of Augustine and Hemenover (2009) also generated data on gender differences in affect regulation, and discussed the lack of research into the potentially moderating role of gender on regulation strategy effectiveness. First, these authors reported that men experience less frequent and less intense emotions, and are less reactive than women to affective stimuli. In turn, they found that men report lower levels of affect repair following engagement in a regulation strategy, potentially because they have less negative affect to modify or repair in the first instance. The authors discuss inconsistencies in gender differences in the use of affect regulation strategies, and point to findings that have shown men are more likely to endorse the use of some ineffective strategies such as suppression but not others, such as rumination (e.g., see Gross & John, 2003).

In their meta-analytic review, Augustine and Hemenover (2009) hypothesised that gender would predict regulation strategy effectiveness. Specifically, they proposed that higher baseline levels of affect, greater reactivity to negative stimuli, and therefore need to engage in more frequent affect repair would result in women exhibiting more effective affect regulation efforts. Their results supported this expectation, as samples with greater proportions of females showed larger hedonic shifts, represented by either an increase in Positive Affect or decrease in Negative Affect, following affect regulation attempts. Augustine and Hemeover discussed two explanations for their findings: as just outlined, that males tend to be less reactive to emotional stimuli and therefore have less affect to regulate, so demonstrating lower hedonic shifts following any affect regulation; or that males make use of ineffective strategies such as suppression to appear nonemotional and this ineffective regulation results in minimal change to affect or demonstrates less evidence of affect repair, compared to females.

The minimal research that has examined the moderating role of gender in the relationship between affect regulation strategies and outcomes has yielded equivocal findings. More research in this particular area is needed.

3.2.2 Personality

Only a small number of studies have investigated personality correlates of affect regulation. Here, related literature on coping and emotional intelligence will be reviewed. Some of this literature has looked at personality as a moderator of
regulation processes and coping processes. Other studies have tested for differential outcomes associated with varying regulatory processes according to personality and traits (i.e., mediating and moderating relationships).

Before reviewing these findings, it is useful to firstly define personality as conceptualised here. For the present project, personality refers to stable individual differences in patterns of thoughts, feelings and actions (Costa & McCrae, 1992b) and in emotional, interpersonal, experiential, attitudinal, and motivational styles (McCrae & John, 1992). The dominant structural model of normal personality is the Five-Factor Model (FFM), coined by Costa and McCrae in 1992(a) at the culmination of decades of research on the basic structure and underlying traits comprising human personality. The FFM is a comprehensive taxonomy of personality traits with widespread acceptance among personality psychologists (Costa & McCrae, 1992b). It includes five core dimensions: neuroticism (N) refers to susceptibility to psychological distress and a general tendency to experience such negative affects as fear, sadness, embarrassment, anger, guilt and disgust; extraversion (E) describes level of sociability, energy, positive emotionality, optimism and assertiveness; openness (O) comprises such qualities as active imagination, attentiveness to inner feelings, preference for variety, intellectual curiosity and independence of judgement; agreeableness (A) refers to the interpersonal tendencies of the individual including level of altruism, compassion and sympathy for others and a willingness to cooperate with and help others; and conscientiousness (C) describes level of self-discipline, and the ability to resist impulses and temptations, to act dutifully and strive for achievement (Costa & McCrae, 1992a). In the present project, these five factors were measured using the 50-item Australian Personality Inventory short-version (API, Murray et al., 2009).

Davies, Stankov and Roberts (1998) investigated relationships between personality, cognitive abilities and engagement in affect repair. These authors found that N was related to lower levels of affect repair whereas E predicted higher rates of engagement in affect repair. Similarly, in a longitudinal sample, Kokkonen and Pulkinnen (2001) explored associations between personality traits and a range of emotion regulation variables, including strategy use (measured on Mayer and Stevens, 1994, Meta-Regulation Scale). Results revealed that the Big Five personality traits were related to use of emotion regulation strategies. Overall, it was found that N was
most strongly related to regulation strategies, and was specifically associated with reduced efforts at repairing, dampening and maintaining one’s emotional experiences.

Kokkonen and Pulkinnen (2001) further found that results were slightly different for males and females in their sample. The powerful impact of N on strategy use was most consistent for males. Among male participants, all traits excluding C were associated, either directly or indirectly, with employment of strategies. For females, only N and C showed these associations. It was also found that reports of current mood and an individual’s evaluation of his or her mood, were important mediators of pathways from personality to strategies, and this was particularly true for males. Examples of these mediated pathways included: high N males who reported they were often in a negative or an active mood and indicated they tended to be influenced by their mood, did not make use of repair and dampening emotion regulation strategies; high N males who indicated they were infrequently in a positive or a calm mood and who reported their moods as atypical and unacceptable, did not tend to engage in affect maintenance strategies; high E males who were currently in an active mood and who reported they were not influenced by their current mood, showed a tendency to engage in affect repair and maintenance; high N females who indicated they were not often in a current positive mood, reported efforts at repairing their mood; and high C females who reported their moods as atypical and unacceptable, indicated that they seldom engage in affect maintenance strategies. As contended by the study authors, these findings highlight that emotion regulation is shaped by contextual and situational factors, including personality traits and the present mood experience of the individual.

In the related coping literature, Vollrath and Torgersen (2000) investigated associations between personality and coping variables, and in particular, the combined effects of traits on stress experience and coping tendencies. These authors looked at eight different combinations of the traits N, E and C and their impact on coping responses. Vollrath and Torgersen outline the ample evidence supporting the links between personality and coping. They note studies finding high N to be related to a passive and maladaptive coping style, and E to be associated with active coping strategies and an adaptive tendency to seek social support when distressed (e.g., see McCrae & Costa, 1986, Vollrath, Torgersen, & Alnaes, 1995, Watson & Hubbard, 1996). Further, they note that these studies have identified close relations between C
and coping tendencies, including that individuals with high levels of this trait are more likely to engage in active problem solving strategies and less likely to employ passive, maladaptive coping responses. Vollrath and Torgersen observe, however, that there is minimal evidence to support links between coping and the remaining Big Five traits, A and O.

Vollrath and Torgersen (2000) also looked at engagement in adaptive (e.g., active coping, planning, instrumental support, positive reframing and acceptance) and potentially dysfunctional strategies (e.g., denial, venting and alcohol/drug use), in response to stress encountered during the previous three months. Strategies were measured using a German version of Carver et al.’s (1989) COPE inventory. Vollrath and Torgersen found that a combination of low N and high C provided the most favourable stress and coping profile, whereas a blend of high N and low C suggested vulnerability to stress and greater occurrence of daily hassles, and poor coping tendencies. The effect of E on coping responses was more ambiguous and depended jointly on particular combinations of N and C. For example, E appeared to amplify the positive coping effects of low N and high C, whereas a high score on this trait only slightly reduced the negative effects on coping of scoring high on N and low on C. The authors conclude that their results highlight that combinations of personality traits, along with single personality factors, impact the manner in which an individual experiences and responds to stress.

Also from the perspective of the closely related coping framework, Austenfeld and Stanton (2004) hypothesised that personality factors are likely to influence the usefulness or otherwise of particular strategies, such as a coping style based on emotional approach. These authors proposed that personality is an important moderator of the effects of coping. They related this to individuals suffering from Borderline Personality Disorder for example, and contended that these individuals would not benefit from the usually effective emotional approach coping, because the emotions to be acknowledged and delved into would likely be negatively-valenced and potentially worsen already poor well-being.

John and Gross (2004) examined associations between the Big Five personality traits and the regulation strategies of reappraisal and suppression. They found that use of suppression was related to low E, and reappraisal was related to low N. Other studies have identified similar links between traits and use of particular
coping or affect regulation strategies (Hassani, Azadfallah, Tabatabaie, & Ashayeri, 2008; Kokkonen & Pulkinnen, 2001; McCrae & Costa, 1986; Watson & Hubbard, 1996). Although they did not test how personality may moderate the effects of these strategies on affective outcomes, this research raises the question of the possible interplay between these variables and encourages further research into links between affect regulation and personality.

In their review of the personality and coping literatures, Carver and Connor-Smith (2010) posit that personality and coping play both of independent and interactive roles in contributing to well-being outcomes. They note that E, C and O tend to be associated with more adaptive and effective “engagement coping”, whereas N has been linked with more ineffective “disengagement coping”. The authors propose that to increase understanding of the interplay between personality and coping in predicting well-being and adjustment, future studies must test for greater complexity in the associations among these variables, including for example: mediation (personality predicts choice of strategy which in turn predicts outcome); moderation (personality influences the effectiveness of the particular strategy chosen); and mediated-moderation (personality influences both selection and effectiveness of coping strategy).

One of the aims of the Augustine and Hemenover (2009) study was to develop baseline strategy effectiveness data that could be drawn on to explore personality moderators of effectiveness. As argued by the authors, “personality plays a role in nearly all aspects of affective experience” (p.1190) and previous work has found it does influence the effectiveness of affect regulation strategy attempts.

Augustine and Hemenover (2009) did not specifically examine personality differences in strategy effectiveness, however, because the majority of studies in their meta-analysis had not also assessed personality. The authors note that including such individual difference measures in future research could lead to valuable conclusions and insights regarding the process of affect regulation and repair. It would allow for even greater understanding of personality phenomena and of the mechanisms underlying the effectiveness of particular strategies. The authors recommend that future affect regulation studies also consider the impact of personality variables, because one of the foremost limitations of the extant literature is lack of consideration of these individual differences in the affect regulation process.
3.3 Summary of Chapter Three

This chapter reviewed the association between affect regulation and affective outcomes, and individual differences in affect regulation processes. The chapter focused in particular on two recent meta-analytic studies to summarise findings related to outcomes. First, Augustine and Hemenover (2009) reported that the affect regulation strategies of reappraisal and distraction were most effective for affect repair. They also reported that behavioural strategies contributed to a greater change in affect compared to cognitive strategies and this was interpreted according to ease of use of the former strategies. Second, Aldao et al. (2010) similarly found that reappraisal was beneficial and was associated with reduced risk of psychopathology, as were the strategies of problem-solving and acceptance. In contrast, use of suppression, avoidance and rumination were associated with greater risk of psychopathology. The authors further reported that putatively maladaptive strategies were more strongly related to psychopathology risk than putatively adaptive strategies, and that particular psychopathology symptom clusters (i.e., mood disorders) were more highly associated with risk than others (i.e., externalising disorders). Overall, it was concluded that affect regulation variables differentially impact outcomes for the individual and that more investigation of this area is required to help clarify existing findings.

Findings related to gender and personality differences in affect regulation processes were considered. Gender differences were discussed in the context of Nolen-Hoeksema’s (1987, 1991, 2000, 2002) work on RST, and both consistent and contradictory results were reviewed in relation to this theory. That is, some studies have suggested men are more proficient at regulating their affect and make use of more adaptive strategies; others have indicated women are superior regulators of affective experience. Nolen-Hoeksema and Hilt’s (2009) recent revision to RST was presented, which concurred with the latest findings concerning women’s more frequent first onsets of depressive disorder rather than episodes of longer duration.

Literature related to the impact of personality variables on affect regulation processes was outlined. While further research in this area is urgently required some consistencies in existing findings were evident. Specifically, studies have shown that N is related to reduced efforts at affect regulation and repair, whereas E and C have been related to greater capabilities in affect regulation. Few studies have looked at
links between affect regulation and the remaining traits, O and A. The relevance of traits in affect regulation phenomena was highlighted (as per De Raad & Kokkonen, 2000) and it was proposed that increased investigation of personality factors would be fruitful for developing person-specific recommendations concerning optimal management of emotional experience (e.g., see Augustine & Hemenover, 2009). In sum, as leading emotion regulation researcher James Gross (1999, p.562) argues “Emotion regulation always takes place in the context of a particular individual”, and it seems imperative that future studies continue the exploration of individual differences in the regulation of affect and how these differences facilitate greater or lesser well-being.
CHAPTER FOUR: HOW TO APPROACH A STUDY OF AFFECT REGULATION

This chapter describes the particular approach taken in the present project’s investigation of the affect regulation construct. This project entails a comprehensive investigation of affect regulation and explicitly recognises a distinction between dispositional tendencies and the deliberate behaviours engaged in by the individual seeking to regulate affect. Existing studies that have considered comparable components of affect regulation to those pursued in the present project are reviewed here to illustrate the theoretical background for this project and hypothesis formulation in particular.

4.1 Addressing the fundamental concepts: What should be the focus of investigation?

Existing research has established that the affect regulation construct is relevant for human well-being and is an area worthy of investigation (Aldao et al., 2010; Amstadter, 2008; Campbell-Sills et al., 2006; Tice & Baumeister, 1993). What has not been established is an optimal operationalisation of this construct, as researchers have devised their own models and conceptualisations for capturing the affect regulation process. The present project proposes an investigation of affect regulation that incorporates two types of variable identified in this literature: a multidimensional model of emotion regulation, pioneered by Gratz and Roemer (2004); and examination of specific strategies used by individuals seeking to regulate their affect. Through examination of these two types of affect regulation variable, this project recognises an important distinction between one’s dispositional responses to affect and the specific actions one might consciously employ to regulate affect. In this way, a novel conceptualisation of affect regulation was developed and empirically investigated. The two facets of affect regulation pursued in this project are detailed further below.

4.1.1 Variable 1: Affect regulation dispositions

The first component of affect regulation investigated in this project (Study 2 in particular) is based on Gratz and Roemer’s (2004) comprehensive model of emotion regulation. Their 6-dimensional integrative conceptualisation of emotion regulation
captures: (1) level of awareness of emotional experiences; (2) level of clarity concerning emotional experiences; (3) level of acceptance of emotional responses; (4) degree of difficulty engaging in goal-directed behaviours when distressed; (5) degree of impulse control when distressed; and (6) access to effective emotion regulation strategies (detailed description of the six dimensions along with item examples can be seen in Table 11 and a complete list of DERS items is contained in Appendix O).

The DERS was designed to provide a measure of clinically relevant difficulties in emotion regulation, based on a comprehensive model of the construct (Gratz & Roemer, 2004). The authors reviewed theoretical and empirical literature on emotion regulation, and were guided by prominent findings for determining which dimensions or aspects would be targeted in their measure. Gratz and Roemer chose not to include any specific regulation strategies in their measure, on the grounds that because contextual factors strongly influence the effectiveness or otherwise of a given strategy, it is more informative to assess an individual’s subjective appraisal of effectiveness of the strategies used.

Having determined the emotion regulation dimensions to be targeted in their new measure, Gratz and Roemer (2004) selected specific items through discussions with experts. They drew on a prominent measure in the emotion regulation literature, Catanzaro and Mearns’ (1990) Generalized Expectancy for Negative Mood Regulation Scale (NMR) for writing the sentence stem for most items (i.e., “When I’m upset”), in order to tap into difficulties regulating emotions particularly during times of distress.

Gratz and Roemer have found meaningful associations between these dimensions of emotion regulation and a range of outcomes, including Generalised Anxiety Disorder status (Roemer, Lee, Salters-Pedneault, Erisman, Orsillo, & Mennin, 2009), depression (Tull & Gratz, 2008), uncued panic attacks (Tull & Roemer, 2007) and deliberate self-harming practices (Gratz & Roemer, 2008; Gratz & Tull, 2010). Furthermore, other researchers have found that the DERS dimensions are related to binge eating difficulties (Whiteside et al., 2007), cocaine dependence (Fox et al., 2007), psychological distress (Ruganci & Gencoz, 2010) and internalising (i.e., anxiety and depression) and externalising (i.e., aggression and delinquency) problems in an adolescent sample (Neumann, Lier, Gratz, & Koot, 2010).
The components of Gratz and Roemer’s (2004) multidimensional model have been explored by other researchers in emotion regulation and related domains. Unlike the research discussed above, these studies did not specifically employ Gratz and Roemer’s DERS measure, but examined comparable variables. The studies are considered here as they provide theoretical foundation for the present project, and support the development of specific hypotheses. This research is summarised in Table 2 and discussed below.

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>What they measured</th>
<th>Relevant findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swinkels &amp; Giuliano</td>
<td>1995</td>
<td>Attention paid to emotions, Ability to identify and label mood states, Perceived efficacy concerning mood regulation</td>
<td>↑attention paid to affective experience = ↑negative affect; ↑ability to identify and categorise affective experience = ↑positive affect</td>
</tr>
<tr>
<td>Lischetzke &amp; Eid</td>
<td>2003</td>
<td>Attention to affect, Clarity of affect, Perceived efficacy concerning mood regulation</td>
<td>Impact of attention to affect on well-being depended on perceived efficacy concerning regulation; ↑clarity of affect combined with ↑perceived efficacy = ↑well-being</td>
</tr>
<tr>
<td>Lischetzke et al.</td>
<td>2005</td>
<td>Clarity of affect (state &amp; trait clarity)</td>
<td>↑state clarity = ↑positive affect</td>
</tr>
<tr>
<td>Lischetzke &amp; Eid</td>
<td>2006</td>
<td>Mood regulation expectancies associated with level of extraversion</td>
<td>↑extraversion = ↑perceived efficacy concerning regulation = ↑positive affect</td>
</tr>
<tr>
<td>Shulman &amp; Hemenover</td>
<td>2006</td>
<td>Attention to affect, Clarity of affect, Mood regulation expectancies</td>
<td>↑clarity of affect = ↑well-being and ↓distress; ↑perceived efficacy concerning regulation = ↑well-being and ↓distress; ↑attention to affect = ↑well-being and ↑distress</td>
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<tr>
<td>Author(s)</td>
<td>Year</td>
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<tr>
<td>Hemenover et al.</td>
<td>2008</td>
<td>Attention to affect, Clarity of affect, Mood regulation expectancies</td>
<td>↑attention to affect, ↑clarity of affect and ↑perceived efficacy concerning regulation = ↑positive affect and ↓negative affect following a negative affect induction</td>
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As outlined in Table 2, Swinkels and Giuliano (1995) tested mood awareness (conceived of as level of attention directed toward mood experience and the ability to identify and label one’s mood states), and a range of other mood regulation variables, including perceived efficacy of mood and specific strategies employed. These variables were investigated in the context of a variety of personality, adjustment and well-being outcome variables. Swinkels and Giuliano found that higher levels of attention paid to affective experience predicted increased negative affect, whereas the ability to identify and categorise affective experience predicted increased positive affect. In other words, awareness of affective experience and clarity of affective experience differentially influenced affective outcomes.

Lischetzke and Eid (2003) examined level of attention to affect, clarity of affect and perceived effectiveness in the regulation of moods in terms of impact on affective well-being. They looked at the interplay between these variables and whether for example, clarity of feelings and mood regulation expectancies moderated the relation between attention to affect and well-being outcomes. Support was found for the hypothesised moderation effect: the impact of level of attention to feelings on well-being depended on self-reported ability to regulate mood. Further, high levels of clarity concerning feelings combined with greater perceived efficacy of mood regulation was related to greater well-being.

Lischetzke, Cucudoro, Gauger, Todeschini and Eid (2005) also investigated clarity of affective experiences, i.e., the extent to which moods and emotions are lucidly experienced. They explored two different types of clarity however, state and trait clarity, and associations between these and mood state. It was found that clarity of affective experience impacted positive and negative affect, such that greater state clarity was related to greater levels of positive affect following an affect induction experiment. Lischetzke and Eid (2006) looked at mood regulation expectancies in
terms of how these differ according to level of extraversion and associated affective outcomes. They found greater extraversion predicted higher mood regulation expectancies, particularly related to perceived ability to maintain a good mood (“mood maintenance”), and this in turn contributed to higher levels of positive affective experience. That is, mood regulation expectancies or “mood maintenance” fully mediated the relationship between extraversion and pleasant trait affect.

Shulman and Hemenover (2006) investigated level of attention toward moods, clarity concerning affective experiences and negative mood regulation expectancies, in relation to positive and negative health outcomes. These authors contend that the affect regulation dimensions tested in their study are captured by current conceptualisations of dispositional emotional intelligence. Through a series of studies, Shulman and Hemenover found greater psychological well-being and lower emotional distress were predicted by higher levels of affective clarity and greater perceived ability to regulate moods. Interestingly, in one of their studies, it was found that greater attention directed toward affective experience predicted greater psychological well-being as well as more emotional distress.

Hemenover et al. (2008) also examined a selection of the variables comprising Gratz and Roemer’s (2004) emotion regulation model. In particular, these authors tested the effects of individual differences in mood regulation expectancies and level of attention directed towards and clarity of affective experience on positive and negative affect, in an affect induction experiment. It was found that participants who reported attending to and understanding their affect, and who had higher expectancies concerning repair of their affect, experienced the largest decreases in negative affect and increases in positive affect following the negative affect induction.

It is noteworthy that some of the dimensions of Gratz and Roemer’s (2004) model of emotion regulation have been previously included in conceptualisations of emotional intelligence. For example, Salovey et al. (1995) proposed that dispositional emotional intelligence can be captured by the trait meta-mood construct, which targets the degree of attention directed toward one’s feelings, sense of clarity concerning these feelings, and beliefs or expectancies about the regulation of these feelings. These authors referred to evidence demonstrating interpretable associations between these dimensions and well-being outcomes, and contended they are fundamental to the self-regulatory domain of emotional intelligence. Moreover, Mayer and Salovey
(1995) discussed that the phenomena captured in these dimensions operate at the highest level of consciousness and can be considered as a reflective or meta-emotional experience.

It can be argued that Gratz and Roemer’s (2004) integrative model of emotion regulation is novel in that it unites a range of key constructs in this domain. While a number of the components of their model had been previously identified and explored by authors from the coping and emotional intelligence literatures for example, their approach is unique in integrating these variables. The present project utilised the DERS measure associated with Gratz and Roemer’s 6-dimensional model in an effort to comprehensively assess affect regulation processes.

4.1.2 Variable 2: Affect regulation strategies

Early work on affect regulation focused on the particular strategies people use to regulate their affect. More recently, a number of researchers have continued with this strategy focus in their investigations of affect regulation. These strategy-focused studies are summarised in Table 3. The two core questions in work with this focus is: (1) what is it that individuals do (cognitively and behaviourally) when seeking to regulate or change their mood and emotional experiences; and (2) what strategies or activities are most beneficial in terms of affective outcomes? A wide range of strategies have been identified, and findings have been supportive of the idea that adaptive and maladaptive responses can be distinguished according to their level of activity versus passivity, degree of positive distraction versus rumination, and the extent to which they are directed toward resolving the unpleasant affect and its causes or are characterised by avoidance, withdrawal and isolation. Examples of effective strategies include cognitive reappraisal (Augustine & Hemenover, 2009; Gross & John, 2003; Totterdell & Parkinson, 1999), problem-solving (Aldao et al., 2010), exercise (Fichman et al.; Fox, 1999; Thayer et al., 1994; Thayer, Peters, Takahashi, & Birkhead-Flight, 2002) and seeking social support and interaction (Rippere, Thayer et al., 1994) whereas specific ineffective strategies include rumination (Aldao et al.; Thomsen et al., 2005), avoidance (Aldao et al.), suppression (Aldao et al.; Gross & John) and venting (Fichman et al.; Totterdell & Parkinson).
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>Nature of study</th>
<th>Relevant findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rippere</td>
<td>1977</td>
<td>A qualitative study that asked participants, “What’s the thing to do when you are feeling depressed?”</td>
<td>Most frequently mentioned categories of strategies were: social; cognitive; exercise; direct action; distraction; listen to music. Identified four categories of activity designed for mood self-regulation: management of mood; modification of meaning/significance of the problem; problem-directed action; affiliation.</td>
</tr>
<tr>
<td>Morris &amp; Reilly</td>
<td>1987</td>
<td>A meta-analytic study that sought to identify behaviours used by individuals for mood and emotional modification</td>
<td>Presented three- and six-factor solutions for representing strategies. For e.g., active mood management; seeking pleasurable activities and distraction; passive mood management social support, ventilation and gratification; withdrawal-avoidance.</td>
</tr>
<tr>
<td>Thayer et al.</td>
<td>1994</td>
<td>Investigated a wide range of activities engaged in for mood regulation</td>
<td>Developed typology includes 8 categories of strategy that are distinguished according to cognitive or behavioural orientation and diversion versus engagement.</td>
</tr>
<tr>
<td>Fichman et al.</td>
<td>1999</td>
<td>A daily experience study that used Larsen’s (1993) ‘Mood Strategies Inventory’ to measure mood regulation strategy use</td>
<td>2 of the 11 measured strategies were associated with change in NA: pleasant/rewarding activity; and venting.</td>
</tr>
<tr>
<td>Parkinson &amp; Totterdell</td>
<td>1999</td>
<td>Used a range of data collection methods to identify and categorise their 162 distinct affect regulation strategies</td>
<td></td>
</tr>
<tr>
<td>Author(s)</td>
<td>Year</td>
<td>Nature of study</td>
<td>Relevant findings</td>
</tr>
<tr>
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</tr>
<tr>
<td>Campbell-Sills et al.</td>
<td>2006</td>
<td>Investigated effects of emotional suppression versus acceptance for emotion regulation in a clinical sample</td>
<td>Following an emotion-induction, acceptance was associated with ↓NA as compared to suppression</td>
</tr>
<tr>
<td>Kamholz et al.</td>
<td>2006</td>
<td>Investigated cognitive affect regulation strategies. Asked participants “what they generally thought about to improve their mood when sad about an uncontrollable situation.”</td>
<td>Developed the ‘Inventory of Cognitive Affect Regulation Strategies’ that identifies 15 categories of strategies</td>
</tr>
<tr>
<td>Haga et al.</td>
<td>2009</td>
<td>Examined strategies of cognitive reappraisal and expressive suppression and whether self-reflection and insight influenced strategy use</td>
<td>↑self-reflection and ↑insight was associated with ↑use of reappraisal and ↓use of suppression for regulating affect</td>
</tr>
<tr>
<td>Lipovcan et al.</td>
<td>2009</td>
<td>Looked at age and gender differences in use of 7 behavioural and cognitive affect regulation strategies</td>
<td>Females showed ↑use of venting and rumination when regulating negative feelings; results showed reduction in use of particular regulation strategies by age</td>
</tr>
<tr>
<td>Augustine &amp; Hemenover</td>
<td>2009</td>
<td>Meta-analytic study that examined effectiveness of specific affect regulation strategies and categories of strategies</td>
<td>Strategies involving reappraisal or distraction were most effective for affect repair</td>
</tr>
<tr>
<td>Quiodbach et al.</td>
<td>2010</td>
<td>Analysed relative impact of positive emotion regulation strategies on level of PA and life satisfaction (LS)</td>
<td>Different strategies impacted PA compared to LS and participants who reported using a wide variety of strategies showed greater overall happiness</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Year</td>
<td>Nature of study</td>
<td>Relevant findings</td>
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<tr>
<td>-----------------</td>
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</tr>
<tr>
<td>Aldao et al.</td>
<td>2010</td>
<td>Meta-analytic study of relationships between 6 emotion regulation strategies and symptoms of psychopathology</td>
<td>Reappraisal, problem-solving and acceptance were protective against psychopathology; suppression, avoidance and rumination were risk factors</td>
</tr>
</tbody>
</table>

Researchers in this area have noted several limitations of findings about affect regulation strategy use and questioned the value of information about specific strategies. Most importantly for the present project, Gratz and Roemer (2004) argue that comprehensive understanding of affect regulation processes requires an examination of more than just strategy use. These authors propose that particular strategies are less informative than variables of their multidimensional model of emotion regulation for example, targeting appraisal of emotional experiences, extent to which the individual perceives they will be able to regulate their affect as desired, and impact of emotions on goal-directed and impulsive behaviour. Similar suggestions have been made by other authors, including Cole, Michel and Teti (1994) and Thompson (1994) who contend that knowledge about specific strategies is only of value if information is also provided about the context in which these strategies are employed. That is, these authors argue that evaluation of emotion regulation practices can only be achieved in relation to the particular demands of the given situation and the goals of the individual. The theoretical starting point of the present project was to explicitly bring together these two types of information concerning affect regulation and the individual; this approach to investigating affect regulation is detailed next.

4.2 Proposing a way forward for the affect regulation literature

The present project sought to conduct a detailed analysis of affect regulation. The driving questions included what constitutes effective and ineffective affect regulation responses, and what factors related to the individual and the manner in which affect is more broadly experienced and appraised, have an impact on the particular responses that are engaged in (see 6.1.3 for specific Study 1 hypotheses and p.7.1 for Study 2 hypotheses). It was proposed that these research questions could be addressed by combining the multidimensional, integrative model developed by Gratz...
and Roemer (2004) and measured with the DERS, with the literature concerning affect regulation strategy use, measured with the ARI (Pirzas, 2006). That is, the project intended to explore a broad range of variables capturing the way in which the individual approaches and experiences affect, along with particular regulation strategies that are employed. It was contended that by investigating these two types of affect regulation variable, the project would capture pertinent constructs in the field and elucidate multiple targets for understanding and intervening in the affect regulation process.

One way to characterise the distinction between these two approaches to affect regulation is that the model measured with the DERS (Gratz & Roemer, 2004) captures variables of emotional processing, as one component of affect regulation phenomena. These variables can be framed as affect regulation dispositions, or tendencies concerning the manner in which affective experiences are perceived and appraised. On the other hand, specific affect regulation strategies, refer to overt and covert deliberate behaviours engaged in by the individual when seeking to regulate affective experience. In this way, information obtained from the DERS and ARI taps into two levels of explanation in the affect regulation literature, namely explanations that are framed as dispositions and those that are framed as deliberate actions. Although not categorically distinct, the difference in emphasis is evident when contrasting the item content of the DERS (e.g., “I know exactly how I am feeling”; “I experience my emotions as overwhelming and out of control”) with the item content of the ARI (e.g., “Call, talk to, or be with someone”; “Listen to music”). The significance of the difference between these two types of variable is evident with reference to the clinical challenge of improving affect regulation: strategies suggest plasticity whereas dispositions do not.

It is contended that a novel aspect of the present project is this particular conceptualisation of affect regulation and the examination of the distinguishing features of these two components. A core endeavour of this project was to disentangle the DERS (Gratz & Roemer, 2004) and ARI (Pirzas, 2006) variables and assess their individual effects on affective outcomes. In this way, it was proposed that while dispositions and strategies represent different levels of explanation, they have very similar targets: the prediction of behaviour and outcomes for the individual.
It was intended that the current project would produce a comprehensive analysis of affect regulation, addressing the primary approach and appraisal aspects of the affective process (exemplified in the DERS, Gratz & Roemer, 2004), in addition to the strategies enacted to regulate this affect (exemplified in the ARI, Pirzas, 2006). It was hypothesised that the approach and appraisal tendencies, or affect regulation dispositions, would influence the strategies the individual chooses to employ, and that the overall affective outcome was, in part, a product of these factors. This type of argument has been proposed in the emotional intelligence domain, where Salovey, Mayer and Caruso (2000) for example, propose that the skills of the individual in relation to understanding, identifying and labeling emotions impact the ability and manner in which emotions are then regulated, in both self and others.

4.3 Consideration of comparable existing research

A number of studies have investigated broader characteristics of affective experience, or affect regulation dispositions as captured in this project with Gratz and Roemer’s (2004) DERS, along with specific regulation strategy use or strategy-type variables. To elucidate the ways in which this existing work differs from the present project, these studies are discussed below. They are first summarised in Table 4.

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>What they measured</th>
<th>Relevant findings</th>
</tr>
</thead>
</table>
| Totterdell & Parkinson | 1999 | Mood awareness, Affect regulation strategy use          | Level of awareness influenced strategy use  
<p>|                    |      |                                                         | ↑awareness = ↑use of engagement strategies                                         |
| Larsen             | 2000 |                                                         | Proposed a model of mood regulation including both disposition and strategy-type  |
|                    |      |                                                         | variables                                                                      |
| Gohm               | 2003 | Attention, clarity and intensity of emotions 'meta-emotion traits' Repair and regulation of mood | Meta-emotion traits were associated with ways in which moods were repaired and regulated |
| Greenberg          | 2004 |                                                         | Proposed EFT model including both disposition and strategy-type                    |</p>
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>What they measured</th>
<th>Relevant findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Van-Leeson et al.</td>
<td>2006</td>
<td>Mood monitoring Affect regulation strategy use</td>
<td>Degree of mood monitoring was related to use of particular strategies, ↑degree of mood monitoring = ↓use of rumination and ↑‘emotional coping’ and ↑‘rational coping’</td>
</tr>
<tr>
<td>Petrides et al.</td>
<td>2007</td>
<td>Range of disposition-type variables ‘trait emotional intelligence’ Use of coping strategies</td>
<td>Depression vulnerability was associated with greater difficulties as per DERS variables and engagement in dysfunctional emotion regulation strategies</td>
</tr>
<tr>
<td>Ehring et al.</td>
<td>2008</td>
<td>DERS variables Emotion regulation strategy use</td>
<td>Depression vulnerability was associated with greater difficulties as per DERS variables and engagement in dysfunctional emotion regulation strategies</td>
</tr>
<tr>
<td>Hemenover et al.</td>
<td>2008</td>
<td>Mood monitoring Negative mood regulation expectancies Cognitive affect regulation strategy use</td>
<td>Mood monitoring and regulation expectancies were related to engagement in particular strategies.</td>
</tr>
<tr>
<td>Decker et al.</td>
<td>2008</td>
<td>Differentiation/clarity of emotions Emotion regulation strategy use</td>
<td>Individuals with GAD did not differ from controls in terms of differentiation or strategy use.</td>
</tr>
<tr>
<td>Drwal</td>
<td>2008</td>
<td>Negative mood regulation expectancies Emotion regulation strategy use</td>
<td>↑expectancies concerning successful regulation = ↑use of adaptive strategies and ↓maladaptive strategies</td>
</tr>
<tr>
<td>Haga et al.</td>
<td>2009</td>
<td>Disposition-type variables Use of two regulation strategies</td>
<td>↑self-reflection and insight concerning emotions = ↑use of adaptive strategies and ↓maladaptive strategies</td>
</tr>
</tbody>
</table>

In their daily experience sampling analysis of mood self-regulation strategies, Totterdell and Parkinson (1999) also tested whether mood awareness impacted strategy use. Mood awareness was assessed at regular intervals with a unipolar rating.
scale, ascertaining the percentage of time the individual had been aware of their mood during the previous two hours. This variable is comparable to Gratz and Roemer’s dimension assessing level of attention directed toward emotional experience. Along with current mood, these authors proposed that mood awareness was a “temporally localized experiential and situational variable” (p.221) that would likely influence engagement in mood-regulation strategies and moderate their effectiveness. Results indicated that level of mood awareness did influence strategies, whereby greater mood awareness was related to use of engagement strategies including: rationalisation; reappraisal; social support; and venting. This study highlighted a relationship between tendencies concerning emotional processing, such as attention paid to emotions, and regulation strategies that are employed.

Larsen’s (2000) conceptualisation of mood regulation includes aspects of emotional processing along with deliberate regulation strategies. In particular, Larsen’s model of the mood regulation process considers individual differences in level of attention directed toward affect-relevant stimuli (comparable to Gratz and Roemer’s [2004] DERS Awareness variable), level of self-perception and accuracy concerning changes in the quality of one’s affective state (comparable to Gratz and Roemer’s DERS Clarity variable) and the cognitive and behavioural regulatory mechanisms engaged in to modify affect (i.e., particular strategies). Larsen proposes that these variables are useful in understanding the general process of mood regulation, and highlight several points where individual differences may lead to differential outcomes in terms of personality functioning, social behaviour, development and the experience of psychopathology. The present project explores these variables included in Larsen’s model, and extends the scope of his work by considering additional emotional processing dispositions measured with the DERS, i.e., level of emotional acceptance, perceived overall ability to regulate affect, and impact of emotions on goal-directed and on impulsive behaviour.

In three separate studies, Gohm (2003) tested relationships between the manner in which individuals experience their emotions, including level of attention, clarity and intensity, and reports concerning the ways in which these emotions are regulated. Gohm called the dimensions of attention, clarity and intensity “meta-emotion traits” (p.594) and in line with Salovey et al. (1995), considers them to be components of emotional intelligence. She found associations between these
dimensions of emotional experience and processing and the ways in which individuals reported repairing and regulating their mood, including the speed with which the individual engaged in mood regulation and degree of overall time spent on this endeavour.

Greenberg’s (2004) model of Emotion-Focused Therapy (EFT) combines similar phenomena as Gratz and Roemer’s (2004) conceptualisation of emotion regulation with a range of specific strategies employed for modifying affective states. For example, Greenberg discusses that EFT is designed to enhance emotional awareness (as per Gratz and Roemer’s DERS Awareness) and develop skills in emotion regulation, including with regards to the identification and labeling of emotions (as per DERS Clarity), allowing and tolerating emotions (as per DERS Acceptance), establishing a working distance from emotions (similar theme to DERS Goals, or impact of emotions on goal-directed behaviour), and the use of specific regulation strategies such as self-soothing, breathing and distraction. In this way, while these models address similar content, Greenberg also considers specific strategy responses, effectively capturing the same phenomena as that addressed in the present project.

Van-Leeson et al. (2006) used daily experience sampling to assess the impact of mood monitoring on affect regulation strategy use and changes in affect state among premenstrual syndrome sufferers. Mood monitoring was conceived of as the tendency to focus on and scrutinise, and the ability to identify and categorise, one’s moods (comparable to DERS Awareness and Clarity variables) and specific strategies were also examined, including cognitive reappraisal. These authors identified evidence that supported links between these variables. For example, it was found that individuals classified as high mood monitors, who reported decreased happiness and calmness during the premenstrual phase, were more likely to engage in reappraisal in order to regulate their negative affect.

In their examination of trait emotional intelligence (EI), Petrides, Pita and Kokkinaki (2007) assessed a combination of variables akin to those captured in the present study. These authors adopted a broad conceptualisation of trait EI, that assessed clarity concerning one’s own and other people’s feelings (similar to DERS Clarity), sense of self-efficacy with regards to controlling one’s emotions (similar to DERS Strategies or perceived access to effective emotion regulation strategies) and
level of impulsivity (similar to DERS Impulse Control) among a range of other variables. The interrelationships between these emotional processing and intelligence phenomena and some specific regulation and coping strategies, including the use of rumination, and engagement in ‘rational’, ‘detached’, ‘emotional’ and ‘avoidant’ coping were tested. Petrides et al. (2007) found these phenomena were associated, including for example that a higher trait EI score negatively predicted engagement in rumination and strategies of ‘emotional coping’, but positively predicted a ‘rational coping’ approach.

In a sample of undergraduates, Ehring, Fischer, Schnulle, Bosterling and Tuschen-Caffier (2008) compared emotion regulation strategy use in those with a history of depression and matched controls. They also looked at differences between the groups in level of emotional clarity and acceptance. It was hypothesised that vulnerability to depression would be associated with maladaptive patterns of emotion regulation strategy use. They also expected individuals with a history of depression to indicate greater self-reported difficulties in emotion regulation, measured via the DERS. It was found that the depressed group were more likely to use a range of dysfunctional emotion regulation strategies, including rumination and catastrophising, and were less likely to adopt the functional strategy of perspective-taking. The results further highlighted that the groups differed in responses to Gratz and Roemer’s emotional processing variables, including that the depressed group specified lower perceived control over affect, greater difficulties with goal-directed behaviour when distressed and lower levels of emotional clarity and acceptance. The authors conclude that depression vulnerability was associated with broad deficits in emotion regulation.

In a laboratory setting, Hemenover et al. (2008) tested the impact of mood monitoring (comparable to DERS Awareness and Clarity variables) and negative mood regulation expectancies (akin to DERS Strategies) on the use of two particular cognitive regulation strategies: positive reappraisal and referral to positive autobiographical memories. These authors referred to mood monitoring and negative mood regulation expectancies as ‘affect regulation traits’ and were interested in whether these traits predicted use of the regulation strategies in a series of negative affect-inducing experiments. Significant associations were found between the traits and strategy use, including that greater emotional clarity and perceived efficacy concerning regulation of affect were related to greater ability to use the positive
memories strategy, which in turn, predicted larger decreases in negative affect and increases in positive affect. It was concluded that engagement in regulatory strategies is affected by expectancies concerning the likelihood of repair success and traits related to awareness and understanding concerning mood and emotional experiences.

Decker et al. (2008) conducted a daily experience sampling study to investigate differences in a range of emotion regulation processes in a sample of individuals classified with and without generalised anxiety disorder (GAD). In particular, they examined how the groups differed in terms of level of emotion differentiation (comparable to DERS Clarity) and in the specific strategies they employed when seeking to regulate negative emotions. Contrary to predictions, it was found that participants in the GAD group did not show lower levels of emotion differentiation when compared to controls, and did not differ in use of particular emotion regulation strategies or frequency of strategy use. The authors interpreted these findings as being due to their daily experience sampling data as opposed to self-report.

Drwal (2008) looked at the impact of negative mood regulation expectancies, or perceived efficacy concerning the regulation of affect (equivalent to DERS Strategies), in the context of four regulation strategies: rumination, distraction, problem-solving and engagement in dangerous activities. Associations between these variables were as predicted, including that greater expectancies concerning successful regulation of moods were related to more frequent engagement in adaptive strategies of problem-solving and distraction and less frequent use of maladaptive rumination and pursuing dangerous activities.

In their analysis of the affect regulation strategies of cognitive reappraisal and expressive suppression, Haga et al. (2009) also assessed whether the ‘meta-cognitive processes’ self-reflection and insight influenced strategy use. It was discussed that this construct captures individual differences in ability to reflect on and differentiate one’s experienced emotions (comparable to DERS Clarity). As anticipated, higher levels of self-reflection and insight were positively associated with successful regulation strategies such as cognitive reappraisal, and negatively associated with maladaptive strategies such as suppression. It was concluded that variables such as self-reflection and insight were central factors in the emotion-regulation process and thus, the constitution of mental health. It was further concluded that a higher level of
private self-consciousness and associated awareness of one’s affective experiences appeared to increase use of cognitive reappraisal and diminish use of expressive suppression.

This existing work highlights several questions to be explored in the current project, and provides an important theoretical foundation for the conceptual approach that was adopted. In particular, these studies illuminate associations between the two components of affect regulation that were pursued: the way in which an affective experience is subjectively perceived and appraised (i.e., dispositions) and its regulation (i.e., strategies). As discussed by Feldman Barrett, Gross, Conner and Benvenuto (2001), an individual’s ability to identify how they feel and to differentiate between various emotions for example, inform them about what steps to take to change an unpleasant emotional experience. Without this degree of emotional awareness and clarity, it is difficult to ascertain what action is needed for modifying one’s unpleasant emotions. These sorts of dispositional variables, along with specific regulation strategy use were tested in the present project analysis. It is contended that the point of difference between these existing studies and the present project is comprehensiveness, including exploration of both a wide range of variables capturing affect regulation dispositions and a number of specific affect regulation strategies.

4.4 Summary of Chapter Four

This chapter has outlined the two overarching components to the current project’s investigation of affect regulation. In doing this, a particular conceptualisation of affect regulation has been proposed, that incorporates affect regulation dispositions and affect regulation strategies. It is contended that this conceptualisation will facilitate a thorough and unique assessment of affect regulation processes and outcomes. The chapter highlighted comparable work to the current project, and points to the ways in which this project will build on and extend the findings of previous studies. Specifically, the present analysis will respond to two key limitations in existing research: (1) lack of comprehensiveness in relation to measurement of affect regulation dispositions (past studies tested just one or two of Gratz and Roemer’s [2004] identified six dimensions), and; (2) lack of consistency around outcome variables. The novel and comprehensive conceptualisation of the present project’s outcome variables is reviewed in 3.1 and 5.2.
CHAPTER FIVE: LITERATURE SUMMARY AND OUTLINE OF THESIS

AIMS

This chapter provides a concise summary of literature reviewed in the thesis thus far, highlighting studies and approaches that underpin the present project’s formulation of research questions and hypotheses. The particular approach to measuring affective outcomes is introduced. Research questions examined in the overall project and the two studies are outlined, with more detail to follow in the chapters pertaining to each individual study. The chapter concludes with a summary of the framework underpinning this project and driving the particular questions investigated. This framework is demonstrated graphically in Figure 1.

5.1 Integrated approach to affect regulation

To reiterate, the present project defined affect regulation as a heterogenous set of processes. In particular, affect regulation was considered to incorporate the manner in which mood and emotional experiences are perceived and appraised and the subsequent modulation of these states, including active efforts at repairing a negative mood or maintaining or enhancing a positive mood. As previously described (refer to Chapter 4 in particular, 4.1 and 4.2), the project distinguished between two types of affect regulation variable that were subsequently explored in the two studies. These two types of variable are referred to as (1) affect regulation dispositions and (2) deliberate affect regulation strategies. It is contended that these particular terms are useful for distinguishing between two facets of the affect regulation process that have different implications in terms of affective outcomes: while dispositions are stable and have relatively fixed outcomes, affect regulation actions have a deliberate component and may be selected according to the individual’s desired affective outcome.

This conceptualisation of affect regulation builds upon Gratz and Roemer’s (2004) influential multidimensional model of emotion regulation competencies and Thayer et al.’s (1994) existing taxonomy of specific affect regulation strategies. By distinguishing these two aspects of the affect regulation process, it was intended that the project would capture affect regulation from the perspective of a lower level of analysis (i.e., one’s behavioural and cognitive repertoire of strategies – referred to here as deliberate strategies) and the higher order structures that influence this process (i.e., emotional processing dimensions as identified by Gratz and Roemer – referred to
here as affect regulation dispositions). The project was interested in possible interrelationships between the dispositions and strategies in the determination of affective outcomes.

5.2 Flourishing and languishing outcomes

It is commonly argued that mental health and mental illness exist on separate, although correlated, unipolar dimensions, which warrant independent operationalisation and measurement (e.g., Keyes, 2002, 2005; Ryff & Singer, 1998). According to Keyes, the presence of mental health can be referred to as “flourishing” and the absence of mental health as “languishing” (p.208). By assessing the way in which affect regulation phenomena are associated with positive mood and well-being states (i.e., flourishing outcomes) and negative mood and psychological distress (i.e., languishing outcomes), the present project sought to adhere to this comprehensive perspective and conduct an in-depth examination of outcomes. The five dependent variables assessed in this project (Study 2) were specifically chosen to target the two facets of Keyes’ broad model of mental health.

First, mood outcomes associated with affect regulation were investigated with the well-established Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). This measure can be used to capture the level with which the individual has experienced a range of positive (i.e., Positive Affect or PA) and negative (i.e., Negative Affect or NA) emotions in the past hour, day, week or month. Level of PA and NA over the past week was the focus here. Second, the individual’s level of satisfaction with life was examined, via Diener, Emmons, Larsen and Griffin’s (1985) Satisfaction with Life Scale (SWLS). This measure taps into the cognitive evaluation of overall quality of life. Along with the PANAS, the SWLS forms a consensual model of subjective well-being, that is made up of both an affective and a cognitive component (DeNeve & Cooper, 1998). The necessity of considering both the affective and cognitive aspects of well-being was discussed by Pavot and Diener (1993) who pointed to the differential qualities and predictors of these components.

Level of flourishing was further targeted with Ryff’s (1989) Psychological Well-Being Scales. This scale was designed to capture otherwise neglected aspects of psychological well-being. In particular, Ryff and Keyes (1995) argue that the study of
well-being had been dominated by two principal conceptions of positive functioning: (1) positive versus negative affect; and (2) level of life satisfaction. While acknowledging that these concepts are important components of well-being, the authors propose that these formulations neglect the impact of social changes on the life situation of individuals and their more enduring life challenges and accomplishments. For example, the life satisfaction concept does not assess such important features as the individual’s level of autonomy and the presence of positive social relationships.

Ryff’s (1989) scales capture six distinct theory-guided dimensions of wellness, including: positive evaluations of oneself and one’s life (Self-Acceptance); a sense of continued personal growth and development (Personal Growth); the belief that one’s life is purposeful and meaningful (Purpose in Life); the possession of quality relations with others (Positive Relations with Others); the ability to manage one’s life and external demands effectively (Environmental Mastery); and a sense of self-determination (Autonomy). Ryff argues that the measure derived from existing frameworks of positive psychological functioning. These existing theoretical accounts included Erikson’s (1959) psychosocial stages, Maslow’s (1968) conception of self-actualization, Rogers’ (1961) depiction of the fully functioning person and Jung’s (1933) account of individuation (Ryff & Keyes, 1995). Ryff observes that while some of her subscales show convergence with existing indexes of well-being, others have demonstrated weaker association with these prior measures. For example, she found that self-acceptance and environmental mastery correlated strongly with life satisfaction, affect balance, self-esteem and morale measures. On the other hand, scales of Positive Relations with Others, Autonomy, Purpose in Life and Personal Growth, showed only a modest correlation with these existing measures.

The principal measure of languishing in this project was Kessler et al.’s (2002) well-established Psychological Distress Scale (K-10). This brief inventory consists of ten items that ask participants about their experience of symptoms of anxiety and depression in a specified time frame. Data collected from this inventory is used to ascertain levels of generalised distress, and scores can estimate the likelihood of meeting criteria for a current mental disorder and corresponding level of disability. Scores on the Negative Affect scale of the PANAS (Watson et al., 1988) were considered an additional measure of languishing.
In summary, the project measured a range of affective outcomes. Languishing was operationalised on the K-10 Psychological Distress Scale (Kessler et al., 2002) and the NA scale of the PANAS (Watson et al., 1988). Flourishing was measured with the PA scale of the PANAS, the Satisfaction with Life Scale (SWLS, Diener et al., 1985) and Ryff’s (1989) Psychological Well-Being scales. To focus the analyses of Study 2, a ‘primary’ languishing and a ‘primary’ flourishing dependent variable were selected; these variables were tested first in the analyses, and guided subsequent analyses with the remaining dependent variables. Psychological Distress was selected as the primary languishing variable as this was measured with the psychometrically robust K-10 and was considered to well represent Keyes’ (2005) conception of languishing that was targeted. Similarly, Positive Affect was selected as the primary flourishing variable as this was assessed with the sound and reliable PANAS scale and was thought to be most informative with regards to level of flourishing and positive well-being of the individual.

5.3 Moderating effects

Previous research suggests that affect regulation outcomes may be moderated by gender and personality, and the project’s approach to moderating effects is described next.

Existing literature has identified patterns of responding to mood and emotional experiences that differ according to gender. Studies have pointed to gender differences in the use of particular regulation strategies for example (Kamholz et al., 2006; Lipovcan et al., 2009; Nolen-Hoeksema & Morrow, 1991, 1993; Nolen-Hoeksema et al., 1999; Nolen-Hoeksema & Rusting, 1999; Nolen-Hoeksema & Corte, 2004; Thayer et al., 1994). Furthermore, some authors have suggested that gender differences in affect regulation processes are related to the differential level of emotional intensity experienced by men and women. More specifically, Augustine and Hemenover (2009) proposed that because men experience less frequent and less intense emotions than women, they have less affect repair and regulation to pursue. Also as previously outlined, it has been found that the emotion regulation process is impacted by personality characteristics. For example, associations have been revealed between the Big Five traits and level of engagement in affect repair, maintenance or dampening (De Raad & Kokkonen, 2000; Kokkonen & Pulkinnen, 2001).
Additionally, studies have pointed to personality differences in the use of more specific strategies such as planning, positive reframing, venting and drug and alcohol use (Vollrath & Torgersen, 2000).

In their meta-analysis of affect regulation strategy effectiveness, Augustine and Hemenover (2009) discussed the limited research into individual difference moderators of affect regulation processes. This is in spite of the established literature supporting the relevance of individual difference variables and the valuable information that could be extracted from such studies concerning for example, the person-specific mechanisms underlying strategy effectiveness. The present project sought to address this dearth in the literature by investigating possible moderating relationships set up by two particular individual difference variables that have been deemed relevant in existing literature. Specifically, given the known powerful influence of neuroticism (N) on well-being (Costa & McCrae, 1980, 1992; DeNeve & Cooper, 1998; Gonzalez Gutierraz, Jimenez, Hernandez, & Puente, 2005; Hayes & Joseph, 2003; McCrae & Costa, 1991; Vitterso, 2001; Watson & Clark, 1992), it was of interest whether this personality dimension moderated affect regulation strategy effectiveness. Further, as gender differences in affect regulation have been revealed, it was of interest whether there were differential results in terms of strategy effectiveness according to gender.

5.4 Overall project outline and research questions

5.4.1 Study 1: Psychometric investigation of the Affect Regulation Inventory

The present project comprised two empirical studies. Study 1 had a methodological focus, and sought to investigate the psychometric properties of a recently developed measure for use in this field, the Affect Regulation Inventory (ARI; Pirzas, 2006). While there are a number of instruments on offer, there currently exists no consensual measure for assessing the affect regulation strategies. The ARI was designed to address this gap in the literature. The strategies included in this measure were previously identified by Thayer et al. (1994), who identified 29 mood regulation strategy items in their research. Fifteen of these were selected for inclusion in the ARI, based on specific theoretical and methodological criteria. The 15 items were subjected to initial evaluation in prior student work by the author of this project (see Pirzas) where the scale demonstrated adequate internal consistency and some
evidence of external validity. The overarching aim of Study 1 was to more thoroughly assess the psychometric properties of the ARI, including in particular, the scale’s test-retest reliability and predictive and discriminant validity. The ARI (if necessary, modified in light of Study 1 findings) was central to the design of Study 2.

5.4.2 Study 2: Affect regulation and affective outcomes

Study 2 was designed to increase understanding of the affect regulation construct. Theoretical aims of the study included addressing definitional and conceptual ambiguities in the affect regulation literature, and assessing a proposed operationalisation of this construct. That is, it was an objective to contrast and compare two established conceptualisations (i.e., affect regulation dispositions versus regulation strategies) of the affect regulation process and test their relative contributions to affective outcomes. This study also aimed to investigate gender and personality differences in affect regulation reported by previous authors. The study sought to extend the current literature on affective outcomes associated with a range of affect regulation processes, and identify affect regulation-related intervention targets for improving the wellness of the individual and reducing vulnerability to psychological distress. Study 2 also had a methodological aim to further assess psychometric properties of the new ARI in a second sample.

5.5 Outline of study framework: The pathways under investigation

The project was designed on the basis of a proposed framework concerning the manner in which personality traits, affect regulation dispositions and deliberate actions might jointly influence affective outcomes. The framework suggests that personality traits would influence and shape the affect regulation dispositions of the individual which in turn would impact upon affect regulation strategy use. Affective outcomes were hypothesised to be the product of this combination of variables. The framework assumes that personality is causally prior to affect regulation dispositions, which was considered causally prior to deliberate strategies.

The model of Figure 1 shows the novel approach that was taken in the present work. While elements of the model have been previously explored (as discussed above), no single study has systematically investigated the particular elements that are elevated in the current project. That is, existing studies have not comprehensively
investigated affect regulation dispositions and deliberate strategies, with the impact of personality variables, in the determination of affective outcomes for the individual. The design of the present project therefore promised to add incrementally to what is known about affect regulation.

Figure 1: Project Framework

5.6 Summary of Chapter Five

The existing literature leaves many questions unanswered. For example, a consensual definition of affect regulation has not been established and there are competing conceptualisations and measurement models for capturing the affect regulation process. This chapter has provided a brief overview of the research questions to be addressed in the present project, and reiterated the particular manner in which affect regulation and associated outcomes will be defined and conceptualised for the present project. An overview of the framework underpinning this project has been discussed and represented in Figure 1. This chapter has summarised affect regulation literature most relevant to the present project and provided an overview of the research questions explored in Study 1 and 2. These studies are reported in the following two chapters of the thesis.
PART THREE: TWO STUDIES
INVESTIGATING AFFECT
REGULATION AND WELL-BEING
CHAPTER SIX: STUDY 1. PSYCHOMETRIC PROPERTIES OF THE AFFECT REGULATION INVENTORY – A SELF-REPORT MEASURE OF AFFECT REGULATION STRATEGY USE

Study 1 had a methodological focus and was directed toward assessing the psychometric properties of the recently developed Affect Regulation Inventory (ARI; Pirzas, 2006). This chapter reviews the development of this instrument and outlines the goals of Study 1. Specific aims and hypotheses are documented and the study’s method is described. Descriptive statistics and results pertaining to the study hypotheses are reported. The chapter concludes with a review of Study 1 findings. Please note that implications derived from this study, limitations and directions for future research are reserved for the project’s General Discussion.

6.1.1 Development of the ARI

The ARI (Pirzas, 2006) is a self-report measure of affect regulation strategy use. The ARI was adapted from an existing instrument, the 29 mood regulation strategy items identified by Thayer et al. (1994). In Thayer et al.’s study, the 29 items operated as a checklist with a binary response format; participants ticked which strategies they usually used to regulate their moods. In an unpublished honours thesis project conducted by the author of the present research, the response format for the 29 items of Thayer et al. was altered to a 5-point Likert scale. A sample of 204 participants rated the extent to which they generally adopted each of these to improve mood. Item examples include: call, talk to, or be with someone; exercise; and engage in an emotional activity. Based on the data obtained in this previous study, 15 of the 29 items were compiled into a brief measure of affect regulation strategies (named the Affect Regulation Inventory, ARI). Two key criteria were used for choosing the items for this measure: those that displayed the highest factor loadings in the initial factor analysis; and those with recognised importance in the literature.

Provisional psychometric characteristics were reported in the unpublished honours thesis (Pirzas, 2006). An exploratory factor analysis (EFA, see Appendix R) of the items suggested there were three broad dimensions underlying the 15 items, subsequently named Active Mood Management, Passive Mood Management and Seeking Pleasure/Distraction. These dimensions formed the three 5-item subscales of the ARI. Convergent validity of the new measure was tested, via literature-predicted associations between the affect regulation strategy dimensions and mood. For
example, Active Mood Management and Seeking Pleasure/Distraction were positively associated with PA ($r = 24, p < .001; r = .31, p < .001$) whereas Passive Mood Management was positively associated with NA ($r = .25, p < .001$). The internal reliability of the three subscales was only moderate (.68, .58, and .57 for the Active Mood Management, Passive Mood Management and Seeking Pleasure/Distraction subscales respectively). However, given the heterogenous item content of the ARI, a moderate coefficient alpha was anticipated and considered to provide some support for the scale’s internal consistency. The overarching aim of Study 1 was to further develop and validate this new instrument.

6.1.2 The present study

The ARI (Pirzas, 2006), in development, is an instrument that has potential to fill an important gap in the literature. In order to do this, psychometric testing in a sample beyond the initial validation sample is required. In particular, Study 1 of the present project was designed to assess internal consistency, test-retest reliability, construct validity and criterion-related predictive validity. To obtain this information, the inventory was administered in two ways. First, a group of participants completed the scale on one occasion only (single administration). Second, a group of participants completed the scale on two occasions separated by approximately a one-month interval (test-retest administration). A 4 to 5 week interval was chosen for investigating the temporal stability of the ARI as the authors of the original 29-item mood regulation strategy checklist (Thayer et al., 1994) from which the ARI was based, used a comparable one-month time frame in their investigation of scale reliability. In the current study, test-retest reliability was assessed on the basis of: correlations between Time 1 and Time 2 scale scores and a repeated measures ANOVA to assess total sample mean differences in strategy use scores over time.

Investigation of the criterion-related predictive validity of the scale examined whether strategies reportedly used at Time 1 impacted upon mood scores recorded at Time 2. The analysis had direct implications for the ecological validity of the scale. That is, the premise of collecting information concerning an individual’s affect regulation strategy use is that this will allow for inferences about their current and future levels of well-being. If there was no association between Time 1 strategy use and Time 2 mood scores, the usefulness of this inventory would be questionable. A
secondary analyses tested whether Time 1 strategy use scores impacted upon Time 2 mood when Time 1 mood was controlled.

It is noteworthy that an EFA was not conducted in Study 1, but was reserved for the larger sample of Study 2. However, the latent structure of the ARI has been previously tested (Pirzas, 2006) and was found to be represented by three broad dimensions, and the scale was employed in this manner in the current study.

6.1.3 Research questions and hypotheses

The specific Study 1 research questions and hypotheses were:

1. Assess the internal consistency of the ARI. **Rationale:** Evidence in support of the internal reliability of the scale is essential to its usefulness.

2. Assess the stability of the ARI, over a 4 to 5 week period (test-retest administration only). **Rationale:** Evidence in support of the temporal stability of this scale would suggest the scale captures habitual affect regulation strategy use patterns, rather than transient responses. This information would be of value in a research and clinical setting, indicating habitual adaptive or maladaptive responses to affect that may be manipulated by the individual seeking to modify well-being. In their investigation of the 29-item mood regulation strategy checklist, Thayer et al. (1994) found test-retest correlations that ranged from .54 to .81. Similarly moderate to high correlations between Time 1 and Time 2 strategy use scores were anticipated and would support the test-retest reliability of the scale. This question was also investigated with an analysis of sample mean differences in ARI scores over time.

3. Assess the construct validity of the ARI, in terms of associations revealed between this measure and level of positive and negative affect. **Rationale:** This analysis addresses a fundamental question concerning whether the scale measures what it purports to measure. Existing studies have documented an association between use of affect regulation strategies and levels of affective well-being (e.g., Aldao et al., 2010; Augustine & Hemenover, 2009; Fichman et al., 1999; Larsen & Prizmic, 2004; Thayer et al., 1994; Totterdell & Parkinson, 1999). In line with such findings, moderate-sized and significant correlations were expected between the ARI strategy subscales and level of Positive and Negative affect (as measured with the Positive and Negative
Affect Schedule, PANAS, Watson, Clark & Tellegen, 1988) and would support the construct validity of the ARI. More specifically, based on preliminary investigations (Pirzas, 2006), it was hypothesised that the Active Mood Management and Seeking Pleasure/Distraction subscales would be positively associated with level of Positive Affect, whereas Passive Mood Management would be positively associated with level of Negative Affect (Hypothesis 1).

4. Assess the criterion-related predictive validity of the ARI, in terms of the impact of Time 1 ARI strategy use scores on Time 2 affect scores, including when Time 1 affect scores are controlled. **Rationale:** An association between Time 1 strategy use and Time 2 affect scores would support the validity of the ARI and suggest this new measure can be employed in the prediction of affective well-being. Using regression analysis, it was hypothesised that Time 1 ARI subscale scores will significantly predict Time 2 affect scores (as measured with the PANAS, Watson et al., 1988) (Hypothesis 2). This is a relatively novel analysis with potential to add important information to the affect regulation literature.

### 6.2 Method

#### 6.2.1 Participants

Participants in Study 1 undertook either a single administration procedure or a test-retest procedure. The single administration sample \( (n = 160) \) was made up of 52 males, aged from 18 to 44 \( (M = 23.98; SD = 6.67) \) and 108 females, aged from 18 to 53 \( (M = 23.87; SD = 7.18) \). The majority of participants were Australian-born \( (n = 116, 72.5\%) \). There were 44 participants born in countries other than Australia, which included Asia \( (n = 24, 15\%) \), USA \( (n = 6, 3.8\%) \), Other Europe \( (n = 6, 3.8\%) \), UK \( (n = 5, 3.1\%) \) and Other \( (n = 3, 1.9\%) \). Most participants had never been married \( (n = 134, 83.8\%) \), others were married (including de facto, \( n = 22, 13.8\% \)) or divorced \( (n = 4, 2.5\%) \). The majority of participants reported secondary school as their highest level of educational achievement \( (n = 95, 59.4\%) \), while 29 had completed a university bachelor degree \( (18.1\%) \), 22 had completed an apprenticeship or trade certificate \( (13.8\%) \), 12 had completed postgraduate education \( (7.5\%) \) and 2 had completed primary school \( (1.3\%) \). Ninety-two participants were in part-time employment
(57.5%), 24 in full-time employment (15%), 22 were unemployed and looking for work (13.8%) and a further 22 were not employed and not looking for work (13.8%). Almost all participants were currently studying, either full-time (n = 119, 74.4%) or part-time (n = 34, 21.3%), and 7 were not currently studying for any course (4.4%).

The independent test-retest sample (n = 86) was made up of 46 males, aged from 24 to 65 (M = 39.11; SD = 10.79) and 40 females, aged from 22 to 63 (M = 39.40; SD = 12.49). The majority of participants were Australian-born (n = 69, 80.2%). There were 17 participants born in countries other than Australia, which included the UK (n = 12, 14%), Asia (n = 2, 2.3%) and Other (n = 3, 3.5%). Most participants were married or in a de facto relationship (n = 58, 67.4%), others had never been married (n = 23, 26.7%), were divorced (n = 3, 3.5%) or separated (n = 2, 2.3%). Highest level of education was varied: 39 completed a university bachelor degree (45.3%); 17 completed secondary school (19.8%); 15 completed an apprenticeship or trade certificate (17.4%); and 15 completed postgraduate education (17.4%). The majority of participants were employed full-time (n = 53, 61.6%), with 18 employed part-time (20.9%), 14 were not employed and not looking for work (16.3%) and 1 participant was unemployed and looking for work (1.2%). Most participants indicated they were not currently studying for a qualification (n = 76, 88.4%), 7 were studying full-time (8.1%) and 3 were studying part-time (3.5%).

6.2.2 Materials/Measures

The questionnaire package, identical for the single administration and test-retest subsamples, contained the ARI and the PANAS. The questionnaire also collected demographic variables (age, gender, country of birth, marital, employment and educational status, and whether participants were currently studying for a qualification). The questionnaire can be seen in Appendix J.

*Affect Regulation Strategy Use (Affect Regulation Inventory, ARI, adaptation of a mood regulation strategy checklist, Thayer et al., 1994)*

The ARI consists of 15 items representing a range of strategies for modifying affective experience. Item examples include: *try to put feelings in perspective; eat something;* and *drink caffeinated beverage.* Respondents are asked to rate on a 5-point Likert scale (1 = “never” and 5 = “very frequently”), their usage of the 15 listed
strategies when trying to improve their moods and emotions. Responses are summed to form the three 5-item provisional subscale scores, namely: Active Mood Management; Passive Mood Management; and Seeking Pleasure/Distraction. Scores for each subscale range from 5 to 25, with higher scores indicating greater use of the strategies.

Positive and Negative Affect Schedule (PANAS, Watson, Clark & Tellegen, 1988)

The affective component of well-being was measured on the 20-item Positive and Negative Affect Schedule (PANAS, Watson, Clark & Tellegen, 1988). This scale comprises 10 items measuring Positive Affect (PA) and 10 items measuring Negative Affect (NA), and is widely used to capture the dominant two-dimensional mood model at the general factor level (Watson & Tellegen, 1985; Watson, Wiese, Vaidya, & Tellegen, 1999). Examples of the single adjective items measuring PA include “interested” and “alert” and items describing NA include “irritable” and “nervous”. Participants rate their mood on a 5-point Likert scale, where 1 = “very slightly or not at all” and 5 = “extremely”, the extent to which the items described their emotional experience. The PANAS can be used to measure affect over various time periods (Watson et al., 1988) and a one-week time frame was chosen as the present study was interested in state, rather than trait-like affect. There is no reverse scoring, and PA and NA scores are calculated by summing the 10 items pertaining to each subscale. Scores have a theoretical range of 10 to 50, with higher scores reflecting greater experience of emotions characterising that affective state during the past week.

The PANAS has demonstrated sound reliability, with coefficient alpha ranging from .84 to .90, and test-retest reliability alpha from .39 to .71 (Watson et al., 1988). Factor analytic studies indicate that PA and NA are distinct dimensions that are differentially related to other variables; for example, PA but not NA correlates with social activity, and NA but not PA correlates with perceived stress (Watson et al.). The relative independence of these dimensions is further demonstrated by their sharing just 1% to 5% of their variance (Watson et al.). The PANAS demonstrated high levels of internal consistency in Study 1, with coefficient alphas of .88 for the PA subscale and .86 for NA.
6.2.3 Procedure

As noted above, there were two separate modes of data collection for this ARI validation study, namely, a single administration and test-retest administration. Time 1 of the test-retest administration was identical to the single testing session design and so these two sets of data were combined to maximise sample size in cross-sectional investigations. All data were collected via an online questionnaire (using the survey software package, Opinio).

Availability sampling was employed, and participants were recruited through a number of avenues, including friends and associates of the researcher, as well as via their respective social and professional circles. The research was also advertised on a number of Australian-based internet websites (e.g., Swinburne University Higher Education and Psychology Clinic sites, a local recreation centre e-newsletter).

Potential participants were offered the choice of involvement in the single administration design or the dual administration design. Due to the need to collect identifying information for the test-retest subsample, the procedure differed somewhat for single administration versus dual administration participants. Those participating in the single administration followed the online survey link as listed on the research recruitment advertisement, and completed the 5-minute questionnaire on a single occasion only. Individuals who were interested in taking part in the test-retest study, as described on the brief recruitment advertisement were asked to email the researcher stating this interest. The potential participant was then sent a copy of the informed consent form (see Appendix H), which outlined the process of the two-part data collection, including information about voluntary participation and confidentiality. Consent was implied by insertion of their email address on this form, that was returned to the researcher. Participants were contacted via email on five more occasions: (1) To indicate their consent form had been received and they would be contacted shortly with more details for completing the survey; (2) Time 1 collection - participants were given their 4-digit retest identification code and link to access the online survey and asked to complete this anytime over the next week; (3) Reminder email sent to all participants, stating that there were four days remaining to complete the online survey; (4) Time 2 collection – participants were reminded of their 4-digit retest identification code and link to access the online survey and again asked to complete this anytime over the next week; (5) Final email sent to all participants,
including a reminder that there were four days remaining to complete the online survey and thanking them for their time and involvement in the research.

The nature of this research was outlined on the cover sheet appearing at the commencement of the electronic survey, as well as on the informed consent form for the test-retest group. These assured participants that their involvement in the study was voluntary and that they were free to withdraw at any time. Participants in the single administration group were informed that their responses would be completely anonymous. For those in the test-retest subsample, the process of upholding their confidentiality was explained in detail. Specifically, participants were instructed that their email address and matching 4-digit retest code would be stored on a password-protected computer for the duration of the data collection period. These would be referred to for the purposes of contacting the participants with the online survey prompts. Following the second and final email reminder, and before any data analysis took place, this file was deleted. In this way, participants were assured that their responses would be deidentified and their data would be analysed in an anonymous fashion. Information concerning counselling support and referral services was also listed on the electronic cover sheet, and informed consent was implied by completion and “submission” of the questionnaire, or completion and email return of the consent form for the test-retest participants.

### 6.2.4 Data Treatment

Results of Study 1 and Study 2 in this project were analysed using the Statistical Package for the Social Sciences (SPSS) version 17.\(^1\) The extent and randomness of missing data was assessed with a Missing Values Analysis (MVA in SPSS). Values were imputed for the small number of cases with a minimal amount of data missing using Expectation Maximization in SPSS MVA.

The data for both the single administration and test-retest administration subsets of Study 1 were analysed using general linear modelling techniques. Details relating to the type of participant and analytic method for investigating each research question and hypothesis are provided in Table 5 below.

\(^1\) Study 1 and Study 2 of the present project shared some data analysis approaches and decisions. To avoid repetition, features identical across both studies are noted here in the description of Study 1.
Correlation coefficients were examined for investigating RQ3. It is acknowledged that when conducting multiple correlations in this small sample \((N = 86)\), there is an elevated risk of Type 1 error. The Bonferroni correction is often used in this type of multiple testing situation, whereby the significance level is adjusted to account for the possibility of wrongly rejecting the null hypothesis and identifying a false significant result (Salkind, 2010). The Bonferroni procedure has weaknesses however, as it often overcorrects and makes tests too conservative and thus reduces the statistical power of the test (Salkind). According to Pallant (2001), there are a few factors that influence the accurate identification of a statistical difference between groups. In addition to sample size, the effect size – the strength of the difference between the groups, is relevant. In cases where a significant relationship was identified in the present study, there was at least a moderate correlation found between the groups, of \(r = .2\) or greater.

The criterion-related predictive validity of the ARI was investigated using multiple regression. Correlations between Time 1 ARI and Time 2 PANAS scores were first examined to determine which associations were significant and therefore suitable for inclusion in this regression analysis. The impact of Time 1 ARI scores on Time 2 PANAS scores was further tested when Time 1 PANAS scores were statistically controlled.

<table>
<thead>
<tr>
<th>Research question/hypothesis</th>
<th>Participant type(s)</th>
<th>Analytic method(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1</td>
<td>Combined (single admin participants + Time 1 subsample)</td>
<td>Cronbach’s Alpha</td>
</tr>
<tr>
<td>RQ2</td>
<td>Test-retest sample (Time 1 and Time 2 subsamples)</td>
<td>Bivariate correlations and ANOVA</td>
</tr>
<tr>
<td>RQ3, H1</td>
<td>Combined (single admin participants + Time 1 subsample)</td>
<td>Bivariate correlations</td>
</tr>
<tr>
<td>RQ4, H2</td>
<td>Test-retest sample (Time 1 and Time 2 subsamples)</td>
<td>Multiple regression</td>
</tr>
</tbody>
</table>
6.3 Results

In both Study 1 and Study 2, data were subjected to preliminary analyses to determine their suitability for inferential analysis.

6.3.1 Single administration subsample analyses

Missing Data

In the total sample ($N = 174$), 0.002% of overall data points were missing. Missing data were found in 8.62% of cases. Results of a Missing Values Analysis (MVA) indicated values were missing completely at random (Little’s MCAR $\chi^2 = 378.65$, df = 440, $p = .98$). Listwise deletion of cases with missing data is recommended under these conditions (Tabachnick & Fidell, 2001, p.65), which resulted in a sample for analysis of $N = 160$.

Normality, Outliers, Multicollinearity, Linearity and Homoscedasticity

Frequency histograms for the three ARI subscales indicated these were all normally distributed. Positive Affect was normally distributed and NA was slightly positively skewed. Multicollinearity was not evident (all correlations $< .40$) and pairwise bivariate scatterplots indicated the assumptions of linearity and homoscedasticity were met.

Descriptives, internal consistency (Research Question 1) and correlations (Research Question 3, Hypothesis 1)

Means, standard deviations, observed range and reliabilities for continuous variables are presented in Table 6 below. Population norms for the mood variables are also presented.
The first research question of Study 1 was concerned with the internal consistency of the ARI. As shown in Table 6, internal reliability alphas were low to moderate for the three ARI subscales. This was anticipated in light of the heterogeneous nature of items comprising this instrument.

Comparison between average ARI scores in the current sample and the preliminary 2006 data shows that usage levels of strategies represented in Active Mood Management and Seeking Pleasure/Distraction are very similar. Participants in the current study reported slightly greater use of the Passive Mood Management strategies on average however. In the present sample, mean levels of PA were lower than the normative group, and average NA was higher.

Bivariate correlations between the three predictor variables and two outcome variables are shown in Table 7 below.

Table 6: Means, Standard Deviations, Observed Range, Cronbach’s Alpha, Published Norms and Previous Data for the Continuous Variables

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>Observed range</th>
<th>α</th>
<th>Norm*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Mood Mgmt</td>
<td>16.0</td>
<td>3.11</td>
<td>9-25</td>
<td>.62</td>
<td>16.0</td>
</tr>
<tr>
<td>Passive Mood Mgmt</td>
<td>14.48</td>
<td>3.39</td>
<td>6-25</td>
<td>.55</td>
<td>13.9</td>
</tr>
<tr>
<td>Seeking Pleasure/Distraction</td>
<td>15.57</td>
<td>2.97</td>
<td>8-24</td>
<td>.44</td>
<td>15.9</td>
</tr>
<tr>
<td>PA</td>
<td>29.51</td>
<td>7.79</td>
<td>11-49</td>
<td>.88</td>
<td>32.0</td>
</tr>
<tr>
<td>NA</td>
<td>23.94</td>
<td>7.95</td>
<td>11-46</td>
<td>.86</td>
<td>19.5</td>
</tr>
</tbody>
</table>

*ARI previous data (Pirzas, 2006); PANAS published norms (Watson et al., 1988)

N = 160

Table 7: Pearsons Correlations Between Predictor and Outcome Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Active Mood Mgmt</td>
<td></td>
<td>.16*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Passive Mood Mgmt</td>
<td></td>
<td></td>
<td>.37*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Seeking Pleasure/Distraction</td>
<td>.31*</td>
<td></td>
<td>.21*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. PA</td>
<td>.31*</td>
<td>.00</td>
<td></td>
<td>.07</td>
<td>-.20*</td>
</tr>
<tr>
<td>5. NA</td>
<td>-.09</td>
<td>.19*</td>
<td>.07</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05  **p<.01  ***p<.001

N = 160
As shown in Table 7, the pattern of bivariate correlations was in line with Hypothesis 1. Consistent with expectations, moderate-sized and significant positive correlations were found between the Active Mood Management and Seeking Pleasure/Distraction subscales and level of PA. These ARI subscales were unrelated to NA. In contrast, a small to moderate-sized and significant positive correlation was found between the Passive Mood Management scale and level of NA. Passive Mood Management was unrelated to PA.

6.3.2 Test-retest administration subsample analyses

6.3.2.1 Missing Data

In the total sample \( (N = 93) \), 0.001\% of data points were missing. Missing data was found in 7.53\% of cases. Results of an MVA indicated values were missing completely at random (Little’s MCAR \( \chi^2 = 499.32, \text{df} = 483, p > .05 \)). Listwise deletion was again employed, resulting in a sample for analysis of \( N = 86 \).

6.3.2.2 Normality, Outliers, Multicollinearity, Linearity and Homoscedasticity

Normality was assessed with frequency histograms, which indicated the three ARI subscales were all approximately normally distributed at both Time 1 and 2. The exceptions to this were Time 2 Active Mood Management which was bi-modal and Time 2 Seeking Pleasure/Distraction which was multi-modal. The histogram for Positive Affect indicated this was normally distributed at Time 1 and 2. Negative Affect showed a slight negative skew at Time 1 and 2, as would be expected in this non-clinical, community sample. The retention of these continuous variable distributions was supported by the standardised z scores which were all less than 3.29. No univariate outliers were identified. Examination of the correlation matrix indicated multicollinearity was not evident, as all correlations were .70 or less. Pairwise bivariate scatterplots were generated for all independent and dependent variable combinations. These showed reasonable consistency of spread through the distributions, meeting the assumptions of both linearity and homoscedasticity.
Means, standard deviations, observed range and reliabilities for the continuous variables are presented in Table 8 below. The population norms for the mood variables are also provided below.

Table 8: Means, Standard Deviations, Observed Range, Cronbach’s Alpha, Published Norms and Previous Data for the Continuous Variables

<table>
<thead>
<tr>
<th></th>
<th>$M$</th>
<th>$SD$</th>
<th>Observed range</th>
<th>$\alpha$</th>
<th>Norm $M$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Mood Mgmt T1</td>
<td>16.2</td>
<td>2.6</td>
<td>10-23</td>
<td>.59</td>
<td>16.0</td>
</tr>
<tr>
<td>Active Mood Mgmt T2</td>
<td>16.2</td>
<td>2.3</td>
<td>11-22</td>
<td>.56</td>
<td>16.0</td>
</tr>
<tr>
<td>Passive Mood Mgmt T1</td>
<td>13.7</td>
<td>2.8</td>
<td>7-20</td>
<td>.48</td>
<td>13.9</td>
</tr>
<tr>
<td>Passive Mood Mgmt T2</td>
<td>13.4</td>
<td>2.8</td>
<td>6-21</td>
<td>.58</td>
<td>13.9</td>
</tr>
<tr>
<td>Seeking Pleasure/Distraction T1</td>
<td>15.1</td>
<td>2.5</td>
<td>10-21</td>
<td>.42</td>
<td>15.9</td>
</tr>
<tr>
<td>Seeking Pleasure/Distraction T2</td>
<td>15.3</td>
<td>2.7</td>
<td>10-22</td>
<td>.56</td>
<td>15.9</td>
</tr>
<tr>
<td>PA T1</td>
<td>32.89</td>
<td>6.19</td>
<td>18-46</td>
<td>.86</td>
<td>32.0</td>
</tr>
<tr>
<td>PA T2</td>
<td>32.53</td>
<td>5.94</td>
<td>20-46</td>
<td>.86</td>
<td>32.0</td>
</tr>
<tr>
<td>NA T1</td>
<td>18.38</td>
<td>6.61</td>
<td>11-45</td>
<td>.87</td>
<td>19.5</td>
</tr>
<tr>
<td>NA T2</td>
<td>17.63</td>
<td>5.95</td>
<td>10-33</td>
<td>.85</td>
<td>19.5</td>
</tr>
</tbody>
</table>

Note. ARI preliminary data (Pirzas, 2006); PANAS published norms (Watson et al., 1988)

$N = 86$

Results pertaining to the first research question of this study are shown in Table 8 above. Low to moderate internal reliability alphas were found for the three ARI subscales at both Time 1 and Time 2. These findings were anticipated and are comparable with results taken from the single administration data set.

Bivariate correlations between the six predictor variables and four outcome variables are shown in Table 9 below. Test-retest reliability correlations are also displayed (in bold).
Table 9: Pearsons Correlations Between Predictor and Outcome Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Active T1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Active T2</td>
<td>.70&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. Passive T1</td>
<td>-.07</td>
<td>-.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Passive T2</td>
<td>-.01</td>
<td>.02</td>
<td>.63&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Pleasure T1</td>
<td>.21</td>
<td>.31&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.05</td>
<td>.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Pleasure T2</td>
<td>.12</td>
<td>.34&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.02</td>
<td>.29&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.67&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. PA T1</td>
<td>.22&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.29&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.20</td>
<td>-.04</td>
<td>.39&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.25&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. PA T2</td>
<td>.30&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.51&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-.18</td>
<td>-.03</td>
<td>.30&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.38&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.60&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. NA T1</td>
<td>.07</td>
<td>.06</td>
<td>.25&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.15</td>
<td>-.16</td>
<td>.05</td>
<td>-.30&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.13</td>
<td></td>
</tr>
<tr>
<td>10. NA T2</td>
<td>-.13</td>
<td>-.17</td>
<td>.04</td>
<td>.01</td>
<td>-.07</td>
<td>-.10</td>
<td>-.13</td>
<td>.25&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.53&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup>p<.05  <sup>b</sup>p<.01  <sup>c</sup>p<.001  
N = 86

Results related to the third research question of this study are shown in Table 9 above. Consistent with expectations (Hypothesis 1), and findings from the single administration subsample, positive correlations of moderate magnitude were found between the Active Mood Management and Seeking Pleasure/Distraction subscales and level of PA, at Time 1 and Time 2 data points. No significant associations were found between these ARI strategy subscales and level of NA at time 1 or 2. As identified in the single administration subsample, there was a moderate-sized and significant positive correlation between Passive Mood Management and level of NA. This association was found at the Time 1 recording only (i.e., between Passive Mood Management T1 and NA T1). There were no significant correlations between this ARI strategy subscale and level of PA at Time 1 or 2. This pattern of associations between the ARI strategy scales and the PANAS affect scales (Watson et al., 1988) concurs with previous research (Pirzas, 2006) using the ARI and supports the construct validity of this new scale.

6.3.2.4 Test-retest reliability of the ARI (Research Question 2)

As displayed in Table 9, the ARI showed moderate test-retest reliability over the time interval: Active Mood Management was the strongest (.70), followed by Seeking Pleasure/Distraction (.67) and Passive Mood Management (.63). These correlations were highly significant (< .001). These findings are comparable to those
reported by Thayer et al. (1994) and suggest the ARI taps into habitual rather than transient affect regulation responses.

A repeated measures one-way ANOVA was conducted for each of the three ARI subscales to investigate change in strategy scores over the 4-5 week period. The time at which the ARI was completed operated as the independent variable and had two levels, Time 1 and 2. The ARI scores were the dependent variable of interest. Mauchly’s test of sphericity was non-significant for any of the three subscales, suggesting homogeneity of covariance could be assumed. Means and standard deviations for the ARI scales at Times 1 and 2 can be seen in Table 8.

The ANOVA found no significant difference over time in scores on Active Mood Management [Wilks’ Lambda = 1.0, F(1, 85) = .08, p > .05], Passive Mood Management [Wilks’ Lambda = .98, F(1, 85) = 1.27, p > .05] or Seeking Pleasure/Distraction [Wilks’ Lambda = .99, F(1, 85) = .56, p > .05].

6.3.2.6 Do Time 1 ARI strategy scores impact Time 2 PANAS mood scores (Research Question 4, Hypothesis 2)

Multiple regression was used to test Hypothesis 2, that Time 1 ARI strategy scores would significantly predict PANAS mood scores at Time 2. The correlations between Time 1 ARI and Time 2 PANAS scores were first consulted, in order to determine which of these associations were significant and warranted further examination in a regression analysis (see Table 9). The association between ARI subscales Active Mood Management and Seeking Pleasure/Distraction in relation to Time 2 PA met this condition.

In a standard regression, with Time 1 Active Mood Management predicting Time 2 PA, it was found that Active strategy use at Time 1 significantly and positively predicted PA at Time 2 ($\beta = .30, t =2.88, p < .01$). A total of 9% of the variance in level of PA at Time 2 was accounted for by use of the Active strategies ($R^2 = .09$).

In a standard regression, with Time 1 Seeking Pleasure/Distraction predicting Time 2 PA, it was found that use of Pleasure and Distraction strategies at Time 1 significantly and positively predicted PA at Time 2 ($\beta = .30, t =2.89, p < .01$). A
total of 9% of the variance in PA at Time 2 was accounted for by use of the Seeking Pleasure/Distraction strategies at Time 1 (\(R^2 = .09\)).

Analyses controlling for Time 1 mood are a second step in answering Research Question 4. Hierarchical regression was employed for this analysis.

A two-stage hierarchical regression was conducted, with Time 1 PA entered first and Time 1 Active Mood Management scores entered second (see Table 10). At Stage 1, as expected, Time 1 PA scores were a strong and significant predictor of PA at Time 2 (\(\beta = .60, t = 6.82, p < .001\)). When Time 1 Active strategy scores were also considered at Stage 2, Time 1 PA remained a significant predictor of Time 2 PA (\(\beta = .56, t = 6.32, p < .001\)). Time 1 Active strategy use also made a unique significant contribution in the prediction of Time 2 PA (\(\beta = .18, t = 2.0, p < .05\)).

Again, a two-stage hierarchical regression was conducted, with Time 1 PA entered first and Time 1 Seeking Pleasure/Distraction scores entered second. At Stage 1, Time 1 PA scores significantly predicted Time 2 PA scores (\(\beta = .60, t = 6.82, p < .001\)). When Time 1 Seeking Pleasure/Distraction was also considered, Time 1 PA remained a significant predictor (\(\beta = .56, t = 5.94, p < .001\)), but the Time 1 strategy scores did not make a significant unique contribution (\(\beta = .08, p > .05\)).
Table 10: Summary of Hierarchical Regression Analyses with Time 2 PA as the Dependent Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Stage 1 Standardised regression coefficient</th>
<th>Stage 2 Standardised regression coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA T1</td>
<td>.60***</td>
<td></td>
</tr>
<tr>
<td>PA T1</td>
<td></td>
<td>.56***</td>
</tr>
<tr>
<td>Active Mood Mgmt T1</td>
<td></td>
<td>.18*</td>
</tr>
<tr>
<td></td>
<td>$R^2 = .36^{***}$</td>
<td>$R^2 = .39^{***}$</td>
</tr>
<tr>
<td></td>
<td>$R^2$ change = .03*</td>
<td></td>
</tr>
<tr>
<td>Seeking Pleasure/Distraction T1</td>
<td></td>
<td>.08</td>
</tr>
<tr>
<td></td>
<td>$R^2$ change = .01</td>
<td>$R^2 = .36^{***}$</td>
</tr>
</tbody>
</table>

*p < .05  **p < .01  ***p < .001
N = 86

6.4 Discussion of Study 1 findings

6.4.1 Overview of aims and findings

The overarching aim of Study 1 was to assess the psychometric properties of the recently developed Affect Regulation Inventory (ARI). The study investigated the internal consistency and test-retest reliability of the scale, and assessed external validity in relation to state mood (cross-sectionally and prospectively).

Two samples were collected. A group of 160 participants completed the questionnaire on one occasion only. A second sample of 86 participants completed the questionnaire on two occasions separated by a one-month interval. Combined results from these studies provide support for the construct validity of the ARI. Affect regulation strategies directed toward active management of moods and those designed to induce pleasure and provide distraction for the individual were cross-sectionally associated with increased Positive Affect. In contrast, passive strategies were cross-sectionally associated with increased Negative Affect. Further, these findings aligned with the established two-dimensional model of mood, such that the strategies differentially impacted Positive and Negative Affect outcomes.

The test-retest results provided evidence for the temporal stability of this new scale, suggesting habitual responses to moods and emotions were captured. A selection of prospective analyses also supported the scale’s construct validity, whereby Time 1 strategy use predicted Time 2 affect.
6.4.2 Construct validity of the ARI – Hypothesis 1

Consistent with Hypothesis 1, a moderate positive association was found between Active Mood Management and PA and between Seeking Pleasure/Distraction and PA, indicating greater use of these strategies was related to heightened positive emotionality. There was no association between Passive Mood Management and PA. Consistent with the orthogonal, two-dimensional nature of mood (Watson & Tellegen, 1985; Watson et al., 1999), the relationship between strategies and NA were different. Active Mood Management and Seeking Pleasure/Distraction were not related to level of NA. In contrast, a small-moderate association between Passive Mood Management and NA was found, indicating more frequent use of these strategies was related to greater negative emotional experience.

These results were in line with the affect regulation and related literatures. For example, previous studies have documented the positive well-being benefits of employing active, cognitive strategies when seeking to improve a mood state (Aldao et al., 2010; Augustine & Hemenover, 2009; Carver & Connor-Smith, 2010; Larsen & Prizmic, 2004; McCrae & Costa, 1986; McWilliams, Cox, & Enns, 2003; Thayer et al., 1994; Totterdell & Parkinson, 1999). These strategies, represented in Active Mood Management, operate by directly addressing one’s mood or emotional state and the causes underlying the discrepancy between existing and desired state. The individual is then better able to modify the situation and improved mood is made possible, as exemplified in these results for PA. Similarly, existing work has supported the effectiveness of engaging in pleasure-inducing and distracting strategies for regulating affect (e.g., Erber & Tesser, 1992; Fichman et al., 1999; Nolen-Hoeksema & Morrow, 1991, 1993; Thayer et al., 1994; Totterdell & Parkinson, 1999). These strategies, captured in Seeking Pleasure/Distraction, provide the individual with immediate and short-term relief from an unpleasant mood state, and allow for a return to problem-solving efforts when the intensity of the negative emotional experience has passed. Finally, the strategies represented in Passive Mood Management have been linked with poor well-being outcomes (Finset, Steine, Haugli, Steen, & Laerum, 2002; Langens & Mose, 2006; McCrae & Costa, 1986; Nolen-Hoeksema, 1991; Nolen-Hoeksema & Rusting, 1999; Rivers et al., 2007; Thayer et al., 1994). These strategies are oriented toward avoidance of the unpleasant mood and although short-term relief is feasible, they would not facilitate problem-solving or
longer-term improvements in mood. Indeed, these results found the passive strategies contributed to greater levels of NA.

In broad terms, these findings illustrate that the putatively beneficial affect regulation strategies were effective specifically via their impact on PA states. However, the correlations suggested they did not also exert a well-being benefit by reducing NA. In contrast, the anticipated detrimental strategies represented in Passive Mood Management had an impact on level of NA. These strategies did not modify positive emotional experience however. It is suggested in the present study, that certain affect regulation strategies may be effective because of their capacity to increase the positive dimensions of well-being, rather than necessarily reducing negative emotional experience. On the other hand, a different set of regulation strategies may be deemed ineffective because they increase negative well-being and negative emotional experience, but they do not directly alter an individual’s experience of positive emotions. These findings are in line with the two-dimensional view of affect, whereby PA and NA exist along separate, distinct dimensions (Watson et al., 1988; Watson et al., 1999).

In sum, correlations between the ARI strategies and state mood provide some evidence for the construct validity of this new scale. The strategies were related to the outcome variables in interpretable and literature-consistent ways. There was evidence to indicate that the three ARI subscales were differentially associated with PA and NA outcomes, as suggested by the orthogonal model of mood (Watson et al., 1988).

6.4.3 Test-retest reliability of the ARI

Support was found for appropriate levels of stability in ARI scores over time. The test-retest correlations over a 4 to 5 week interval were moderate to high. Analyses also found no significant differences in sample mean scores over time for each of the three scales. It is contended that these findings provide support for the reliability of this new measure. Further, given the heterogeneity of items comprising the inventory, and the associated low to moderate internal consistency results, these findings of temporal stability are promising. They suggest that this new scale taps into habitual ways of regulating mood and emotional experiences, rather than simply transient responses.
6.4.4 Predictive validity of the ARI – Hypothesis 2

Regressions were conducted to investigate whether strategy use at Time 1 impacted upon mood scores recorded at Time 2. In particular, these models tested for prospective effects of ARI scales, Active Mood Management and Seeking Pleasure/Distraction, on level of PA. The regressions did not test for prospective effects of the ARI scales on NA, or the effects of the Passive Mood Management scale on either PA or NA as these did not first demonstrate a significant correlation that warranted subsequent analysis using regression.

The regressions results provided partial support for Hypothesis 2 and the predictive validity of the ARI. Specifically, it was found that greater use of the Active Mood Management strategies at Time 1 predicted increased PA at Time 2. This effect was also found when Time 1 PA was statistically controlled. Furthermore, it was found that greater use of the strategies comprising Seeking Pleasure/Distraction at Time 1 predicted increased PA at Time 2. This effect was not sustained when Time 1 PA was included in the model. While this analysis found only one ARI scale, Active Mood Management, had a significant prospective impact on mood scores when Time 1 mood was accounted for, the initial results highlighted evidence for the predictive validity of both the Active Mood Management and Seeking Pleasure/Distraction scales. This is a novel finding. These results point to the usefulness of the ARI scale and highlight some of the ways in which it could be informative in research and therapeutic contexts.

6.4.5 Conclusion

The Affect Regulation Inventory was found to have adequate psychometric properties in cross-sectional and test-retest administration analyses. A range of applications for the recently developed inventory were outlined, including for researchers wishing to investigate the specific strategies used to regulate affect and their effects on mood and emotional experience, and clinicians seeking to identify the particular regulation style of an individual client. Some limitations and shortcomings of these findings were also noted however, and it is contended that replication of the present analyses would be worthwhile. For the present project, the key finding to be extracted from this study is that psychometric properties identified for the ARI make
it adequate for measuring individual differences in the tendency to use three particular
types of affect regulation strategy, and therefore a suitable measure for Study 2.

6.5 Summary of Chapter Six

Chapter Six presented the first study of this project, which consisted of a
psychometric analysis of the Affect Regulation Inventory (ARI), a new measure for
assessing affect regulation strategy use. Findings from a cross-sectional and a
longitudinal sample indicated support for the reliability and validity of the scale.
Specifically, while the internal consistency of the scale was moderate, there was
strong evidence of test-retest reliability. The construct and criterion-related predictive
validity of the ARI was examined and supported by the results from the two samples.
The ARI was found to be an adequate measure of an individual’s use of a range of
affect regulation strategies and an appropriate instrument for this application in the
subsequent Study 2 of this broader project.
CHAPTER SEVEN: STUDY 2. REGULATION OF MOODS AND EMOTIONS – INVESTIGATING AFFECT REGULATION AND ITS CONTRIBUTION TO AFFECTIVE OUTCOMES

This chapter reports on the project’s second study. Study 2 was the major investigation of the present project, and entailed a comprehensive empirical analysis of the affect regulation construct. The study had theoretical and applied aims, and sought to address outstanding issues in the literature concerning definitions, conceptualisations and measurement. Chapter seven starts with an outline of Study 2 aims and research questions and the specific hypotheses. The study’s methodology is then described, including details concerning the statistical treatment of data. The results are presented in section 7.3, including information related to preliminary analyses and data screening and findings from the substantive analyses. The reader can note that section 7.3 contains two unplanned series of analysis, both of which arose from particular features of the data. First, an extended discussion of moderation effects is required. Second, there is detailed description of a suppression effect identified and subsequently investigated in the structural equation modeling analyses. This description outlined the occurrence and treatment of the suppression. Both these ‘detours’ are necessary for a comprehensive analysis of Study 2 research questions and hypotheses. Chapter seven concludes with discussion of the Study 2 results, including an overview of the aims and findings and an interpretation of main effect analyses. Implications and limitations pertaining to Study 2, and discussion of further research are reserved for the General Discussion.

7.1 Aims and hypotheses

A number of specific hypotheses and research questions were set to frame the investigation of the broad study aims.

Aim 1: This study sought to further assess the psychometric properties of the ARI (Pirzas, 2006). Following investigation of this scale in Study 1, Study 2 was designed in part to collect further data related to its internal consistency reliability and latent structure. Due to the greater number of participants in Study 2, factor analysis of the ARI was reserved for this sample. It was expected that three previously identified (Pirzas) subscales would be revealed in this instrument: Active Mood Management; Passive Mood Management; and Seeking Pleasure/Distraction (Hypothesis 1).
Rationale: The ARI is a newly developed instrument with unconfirmed psychometric properties. It has been investigated in prior work (Pirzas) and was the focus of Study 1 of this project, but requires further examination in the larger participant sample of Study 2.

Aim 2: To test the impact of specific affect regulation strategies on affective outcomes. The first research question was: Do specific strategies (measured with the ARI, Pirzas, 2006) impact affective outcomes? In line with Study 1 predictions, it was hypothesised that the affect regulation strategy variables would be significantly associated with affective outcomes (Hypothesis 2). Specifically, based on Augustine and Hemenover (2009) and Study 1 findings, it was expected that the ARI subscales Active Mood Management and Seeking Pleasure/Distraction would be significantly related to greater PA in the larger Study 2 sample (Hypothesis 3). Also as identified in Study 1, it was expected that the ARI subscale Passive Mood Management would be significantly related to greater NA (Hypothesis 4). This aim was tested further by investigating whether strategy variables remained significant predictors of affective outcomes over and above other relevant predictors (affect regulation dispositions, measured with the DERS, Gratz & Roemer, 2004, and the five personality scales of the API (Murray et al., 2009) (Research Question 2). Rationale: This analysis is important in terms of identifying the variables that are relevant when considering affective outcomes for the individual from the perspective of the affect regulation process. This question was also driven by the assertion that strategies are not as relevant to outcomes as some other affect regulation predictors such as variables of emotional processing, including emotional awareness, clarity and acceptance (Gratz & Roemer, 2004).

Aim 3: To comprehensively assess the affect regulation construct by targeting two aspects of the affect regulation process: (1) A multidimensional conceptualisation of emotion regulation (measured with the DERS, Gratz & Roemer, 2004) that captures the ways in which the individual approaches and appraises their emotional experience (referred to in this study as affect regulation dispositions); and (2) Specific affect regulation strategies (measured with the ARI, Pirzas, 2006) that targets overt and covert deliberate behaviours intended to actively regulate affective experience (referred to here as deliberate affect regulation behaviours and actions or strategies).
As summarised in 5.1, it was an aim to explicitly bring together these two aspects of affect regulation identified by existing researchers and examine their individual and combined impact on affective outcomes. In this way, the study intended to develop a more complete model of the affect regulation process than is currently available. The usefulness of this model was assessed in terms of the significance of these variables predicting affective outcomes. Relatedly, the third research question was: Which affect regulation variables emerge as significant predictors of the outcome variables in regression and SEM analyses? Are both types of affect regulation variable relevant in the determination of affective outcomes? Rationale: Gratz and Roemer (2004) assert that researchers need to address the affect regulation construct in an integrated manner and go beyond a simple focus on strategies. They contend that broader demands of the situation and goals of the individual must be recognised and proposed their measure, the DERS, captures these variables. The present study sought to respond to this assertion, by comprehensively assessing the affect regulation process, and targeting the two types of affect regulation variable: affect regulation dispositions (as identified by Gratz and Roemer in the DERS, 2004) and specific strategies (ARI, Pirzas, 2006). There is minimal existing research that has examined the affect regulation process with a comparable approach to the present project. That is, only a small number of studies have considered broader characteristics of affective experience such as the affect regulation dispositions targeted in this study, along with specific affect regulation strategies (see 4.3). However, there are few studies that have comprehensively and explicitly targeted dispositional- and strategy-type variables and tested their relative impact on well-being. It is contended that this is the novel aspect of the present study: the particular conceptualisation of affect regulation and examination of the distinguishing features of these two components. It was hypothesised that these two aspects of affect regulation would be significant predictors of affective outcomes (Hypothesis 5). More specifically, it was hypothesised that greater levels of difficulty reported for each of the DERS disposition variables would be related to higher Psychological Distress and NA and lower PA, Satisfaction with Life and Psychological Well-Being (Hypothesis 6). It was also hypothesised that greater use of ARI Active Mood Management and Seeking Pleasure/Distraction and less frequent use of Passive Mood Management would be related to lower scores on Psychological Distress and NA and higher PA, Satisfaction with Life and Psychological Well-Being (Hypothesis 7). Furthermore, as depicted in
Aim 4: Beyond comprehensively assessing affect regulation, it was an aim to comprehensively assess affect regulation-related outcomes for the individual. The approach taken in this study with assessment of outcomes is detailed in 5.2. In brief, the study targeted “affective outcomes”, conceptualised as presence of positive and negative mood (measured with the PANAS, Watson et al., 1988) level of psychological well-being (measured with Psychological Well-Being Scales, Ryff, 1989) and psychological distress (measured with the Kessler-10 Psychological Distress Scale, Kessler et al., 2002), and was further conceived here in terms of level of languishing and flourishing. Rationale: The approach to “outcomes” adopted in this study was designed in light of Keyes’ (2005) proposal that an analysis of mental health and well-being requires independent consideration of both the absence of illness and the presence of wellness. In an effort to comprehensively assess the impact of affect regulation dispositions and volitional actions on the individual, the present study sought to target this broad conceptualisation of outcomes. It was intended that the outcome variables be representative of both level of wellness and absence of distress/vulnerability to illness.

Aim 5: To assess the value of the affect regulation construct in predicting affective outcomes, in the context of personality traits, a known powerful determinant of well-being (Costa & McCrae, 1980, 1992; DeNeve & Cooper, 1998; McCrae & Costa, 1991; Watson & Clark, 1992). Specifically, the fourth research question was: Is affect regulation meaningful for outcomes above and beyond personality variables? This question was explored via an assessment of whether the two types of affect regulation variable emerged as significant predictors of the affective outcomes, when personality variables (measured according to the FFM, Costa & McCrae, 1992(a) with the API, Murray et al., 2009) were simultaneously considered and statistically
controlled. **Rationale:** This was a basic test of the worth of the affect regulation construct in terms of whether this can add explanatory value above and beyond what is predicted based on the individual’s personality traits. This analysis sought to identify the predictive power of affect regulation variables and the value of future research considering affective outcomes from an affect regulation perspective.

Aim 6: To examine moderators of the relationship between affect regulation strategy use and affective outcomes. Specifically, the fifth research question was: Is the relationship between strategies and affective outcomes moderated by level of Neuroticism (API, Murray et al., 2009) or gender? **Rationale:** As discussed (see 3.2.1), studies have identified gender differences in the affect regulation process. Research has also suggested regulation of mood is impacted by the individual’s personality characteristics (e.g., De Raad & Kokkonen, 2000; Kokkonen & Pulkinnen, 2001). This study sought to explore whether these variables – gender and personality – had a moderating effect on the relationship between use of strategies and affective outcomes for the individual. Neuroticism was selected as the personality variable in this analysis in light of the strong influence of this trait on well-being (Costa & McCrae, 1980, 1992; DeNeve & Cooper, 1998; Gonzalez Gutierraz, Jimenez, Hernandez, & Puente, 2005; Hayes & Joseph, 2003; McCrae & Costa, 1991; Vitterso, 2001; Watson & Clark, 1992). Based on this well-reported influence, it was anticipated that this trait would moderate the relationship between strategy use and the affective outcomes. Specifically, it was hypothesised that the three strategy variables would be more highly predictive of the outcomes when level of Neuroticism was low (Hypothesis 9). The particular form of this moderating effect was anticipated in light of the idea that affect regulation strategies may be more influential on outcomes when the impact of Neuroticism was less. Based on the literature citing gender differences in affect regulation processes such as strategy use patterns (Augustine & Hemenover, 2009; Gross & John, 2003; Nolen-Hoeksema, 1987, 1991, 2000, 2002; Nolen-Hoeksema et al., 1999; Nolen-Hoeksema et al., 2009), it was also expected that gender would moderate the association between strategies and affective outcomes (Hypothesis 10). The direction of this moderating effect was explored and no predictions made, as the equivocal literature concerning gender and affect regulation did not support specific hypotheses.
Aim 7: To investigate whether the two aspects of the affect regulation process (i.e., deliberate actions or strategies [measured with the ARI] and affect regulation dispositions [measured with the DERS]) were differentially related to positive (‘flourishing’) and negative (‘languishing’) affective outcomes. The sixth research question was: Are a different set of variables relevant to flourishing versus languishing of the individual? This question was assessed in terms of the significant predictors that emerged in the multiple regression models for the positive and negative affective outcomes. *Rationale:* Larsen (2000) discusses that different mood regulating strategies or behaviours will likely operate differently on the separable and uncorrelated states of pleasant and unpleasant affect. He suggests for example that downward social comparison may be beneficial for regulating sadness but not necessarily helpful for modulating anger. Study 1 indeed identified that positive and negative affect were differentially related to the strategies and this was further pursued in the present analysis. This investigation was extended in Study 2 to examine the associations between the affect regulation dispositions and positive and negative affective outcomes. It was anticipated that findings may have implications for predicting and impacting health and well-being outcomes.

Aim 8: To examine gender differences in responses to the two types of affect regulation variable, (strategy use and dispositions). It was anticipated that males and females would show differential styles of responding to moods and emotional experiences. Specifically, based on Nolen-Hoeksema’s (1987, 1991, 1993) ‘response style theory of depression’ (RST) and findings of Thayer et al. (1994) and Lipovcan et al. (2009) it was hypothesised that women would report greater use of the ARI Passive Mood Management strategies, whereas men would report greater use of strategies represented in ARI Seeking Pleasure/Distraction (Hypothesis 11). *Rationale:* According to Nolen-Hoeksema’s RST, men and women respond to their emotional states in divergent ways and these differences account for women’s increased rates of depression. RST states women show a greater propensity to adopt passive and ruminative emotion-focused responses when experiencing a negative mood, whereas men engage in more active and distracting behaviours. This theory has been supported (e.g., Butler & Nolen-Hoeksema, 1994; Nolen-Hoeksema & Morrow; Nolen-Hoeksema et al., 1999). However, there have been findings to the
contrary of RST, in studies showing men and women are not dissimilar in their approach to affect regulation (e.g., Bagby et al., 1999; Kamholz et al., 2006; Rivers, Brackett, Katulak, & Salovey, 2007) or that women make greater use of adaptive strategies such as distraction and problem-solving (Knowles et al., 2005). The present study sought to examine these equivocal results in a large, international sample.

7.2 Method

7.2.1 Participants

The sample comprised 924 participants, of whom 324 were male, aged from 18 to 68 ($M = 27.20; SD = 10.79$) and 600 female, aged from 18 to 82 ($M = 29.95; SD = 11.83$). Approximately half the participants were Australian-born ($n = 476, 51.5\%$). The remaining participants were born in a range of countries, including the United States ($n = 221, 23.9\%$), Asia ($n = 86, 9.3\%$), the United Kingdom ($n = 59, 6.4\%$), Other ($n = 53, 5.7\%$) and Other Europe ($n = 31, 3.4\%$). The majority of participants were also currently living in Australia ($n = 574, 62.1\%$). Three hundred and five participants reported a country of residence other than Australia, including the United States ($n = 235, 25.4\%$), the United Kingdom ($n = 30, 3.2\%$), Other ($n = 19, 2.1\%$), Asia ($n = 11, 1.2\%$) and Other Europe ($n = 10, 1.1\%$). Forty-five participants (4.9%) did not indicate their country of residence. Most participants had never been married ($n = 585, 63.3\%$), while 281 (30.4%) were married or in a de facto relationship, 42 (4.5%) were divorced, 11 (1.2%) were separated and 5 (0.5%) were widowed.

Highest level of education was varied: 42 (4.5%) completed primary school; 390 (42.2%) completed secondary school; 90 (9.7%) completed an apprenticeship or trade certificate; 225 (24.4%) completed a university bachelor degree; and 177 (19.2%) completed postgraduate education. The majority of participants were employed, either full-time ($n = 286, 31\%$) or part-time ($n = 398, 43.1\%$). Remaining participants were not employed and not looking for work ($n = 156, 16.9\%$) or unemployed and looking for work ($n = 84, 9.1\%$). A large number of participants were currently studying, either full-time ($n = 533, 57.7\%$) or part-time ($n = 165, 17.9\%$), and 226 (24.5%) were not currently studying for any course. The final demographics questions asked participants (1) whether they had ever been treated for a psychological disorder and; (2) if they had been treated for a psychological disorder, to state the diagnosis if given. From the total sample of 924, 243 participants (26.3%)
indicated they had been treated for a psychological disorder, and 234 of these (96.3%) provided information concerning whether and the type of diagnosis that had been given. These diagnoses were: an anxiety disorder \( n = 82, 8.9\% \); depression \( n = 156, 16.9\% \); comorbid anxiety and depression \( n = 48, 5.2\% \); bipolar disorder \( n = 17, 1.8\% \); and an eating disorder \( n = 17, 1.8\% \). Twenty-six participants (2.8%) specified a range of other diagnoses comprising an “other” category, which included personality disorders, impulse control disorders, psychotic episodes and attention deficit hyperactivity disorder. Thirteen participants (1.4%) specified that no diagnosis had been given.

7.2.2 Materials/Measures

A questionnaire containing a battery of measures assessed: affect regulation strategy use, tendencies with regard to affect regulation dispositions, personality; and affective outcomes (i.e., level of generalised psychological distress, positive and negative affect, satisfaction with life and psychological well-being). The questionnaire also collected demographic information, concerning age, gender, country of birth, country of residence, marital, employment and educational status, and whether participants were currently studying for a qualification. Participants were asked whether they had ever been treated for a psychological disorder and to specify the diagnosis if given. These final demographic questions were included in the survey for the purpose of describing the mental health status of the sample. This data were not utilised in the substantive analyses of the study. The questionnaire can be seen in Appendix O.

7.2.3 Measures of affect regulation processes

_Affect Regulation Strategy Use (Affect Regulation Inventory, ARI, adaptation of a mood regulation strategy checklist, Thayer et al., 1994)_

Use of affect regulation strategies was assessed with the 15-item ARI. Details concerning development of the ARI and provisional psychometrics can be seen in 5.4.1 and 6.1.1 and information relating to the use of the ARI in this project (which was uniform across Study 1 and 2) is contained in 6.2.2.

The psychometric characteristics of this new measure were investigated in both Study 1 and 2. Convergent validity for the ARI was identified with literature-
predicted associations between the affect regulation strategy dimensions and mood. There was some evidence of the scale’s internal consistency, with coefficient alphas of .62, .55, and .54 in Study 1 and .67, .54, and .51 in Study 2 for the Active Mood Management, Passive Mood Management and Seeking Pleasure/Distraction subscales respectively. A test-retest reliability analysis was performed over a one-month interval (N = 86) in Study 1, and suggested the ARI is stable over time. Pearson’s product-moment correlations between the subscale scores recorded at Time 1 and Time 2 were .70, .63 and .67 for Active Mood Management, Passive Mood Management and Seeking Pleasure/Distraction respectively.

_Affect Regulation Dispositions (Difficulties in Emotion Regulation Scale, DERS, Gratz & Roemer, 2004)_

Gratz and Roemer’s (2004) Difficulties in Emotion Regulation Scale (DERS) was used to assess “affect regulation dispositions”, or tendencies concerning the manner in which one perceives and appraises affective experience. The six DERS subscales capture level of emotional awareness and clarity, acceptance of emotions, perceived ability to effectively modulate emotions as desired, and the ability to work towards goal-directed behaviours when experiencing unwanted emotions (see 4.1.1). The scale consists of 36 items, that generate a total score (DERS Total Score) and six subscale scores. Table 11 below describes the subscales and lists item examples. Participants rate on a 5-point Likert scale (1 = “almost never” and 5 = “almost always”), the extent to which they are accurately described by the items. The scale introduction was: “This section asks about the ways you experience, approach and process your emotions, and the impact they may have on your daily activities. By selecting one response from each option provided, please indicate the extent to which you believe the statements accurately describe you.” Subscale scores were derived by summing the items pertaining to each scale, and a total score was calculated by summing subscale scores. The possible range of DERS Total Scores is 36 to 180. A higher score on each DERS item indicates greater difficulties related to that aspect of emotion regulation, and thus, higher subscale and total scores indicate greater overall problems in emotion regulation.
Table 11: Subscale Description for Difficulties in Emotion Regulation Scale (DERS)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Definition/What is targeted</th>
<th>Example items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonacceptance of Emotional Responses</td>
<td>To what extent does the individual accept their emotional experience, as opposed to having nonaccepting reactions about one’s distress or negative secondary emotional responses to emotional states?</td>
<td>When I’m upset, I feel guilty for feeling that way.</td>
</tr>
<tr>
<td>(NONACCEPTANCE, 6 items)</td>
<td></td>
<td>When I’m upset, I feel like I am weak.</td>
</tr>
<tr>
<td>Difficulties Engaging in Goal-Directed Behavior (GOALS, 5 items)</td>
<td>To what extent is the individual able to concentrate on and accomplish tasks when experiencing negative emotions?</td>
<td>When I’m upset, I have difficulty concentrating.</td>
</tr>
<tr>
<td>Impulse Control Difficulties (IMPULSE, 6 items)</td>
<td>To what extent is the individual able to remain in control of his or her behaviour when experiencing negative emotions?</td>
<td>When I’m upset, I lose control over my behaviors.</td>
</tr>
<tr>
<td>Lack of Emotional Awareness (AWARENESS, 6 items)</td>
<td>To what extent does the individual attend to and acknowledge their emotions?</td>
<td>I am attentive to my feelings.</td>
</tr>
<tr>
<td>Lack of Emotional Clarity (CLARITY, 5 items)</td>
<td>To what extent does the individual know and is clear about, the emotions they are experiencing?</td>
<td>I have difficulty making sense out of my feelings.</td>
</tr>
</tbody>
</table>

During initial development and validation, Gratz & Roemer (2004) reported sound psychometric qualities for the DERS. In undergraduate student samples, they found the scale demonstrated excellent reliability, with a total score coefficient alpha of .93 and alphas for the six subscales all being greater than .80. Construct validity for the scale was identified by the significant associations between the DERS Total Score and constructs of relevance, including negative mood regulation expectancies and experiential avoidance. The six-factor structure of the scale was supported by the differential pattern of associations between the subscales and these target constructs. The scale authors also found evidence for predictive validity vis a vis correlations between DERS scores and frequency of deliberate self-harm and intimate partner abuse, two behavioural outcomes thought to be linked with difficulties in regulating emotions.
As the initial validation assessment was from a student-based sample, Gratz and Roemer (2004) suggested the DERS required further psychometric examination, both in more diverse nonclinical populations, and clinical populations, including some of particular relevance such as individuals with Borderline Personality Disorder (as per Linehan’s conceptualisation of this disorder, 1993). The sound psychometric profile of the scale was replicated in some more diverse samples, including high levels of internal consistency in a sample of 60 treatment-seeking cocaine patients (Fox et al., 2007) and strong correlations between DERS scores and an experimental measure of emotion regulation in a sample of 17 Borderline Personality Disorder outpatients (Gratz et al., 2006). Additional nonclinical studies have identified similarly favourable characteristics, including: high coefficient alphas for DERS subscales in a sample of 695 undergraduates (Whiteside et al., 2007); good internal consistency (alpha of .91) for the DERS Total Score in a sample of 102 male undergraduates (Gratz & Chapman, 2007); and research investigating the association between emotion regulation deficits and Generalized Anxiety Disorder (GAD) in an analogue sample ($N = 325$) found excellent internal consistency for the DERS Total Score (alpha of .93) and subscale scores, with all alphas greater than .76 (Salters-Pedneault et al., 2006). The present study found further evidence for the excellent internal reliability of this measure with a coefficient alpha of .94 for the DERS Total Score and the subscale alphas exceeded .8.

7.2.4 Personality measurement

Personality (Australian Personality Inventory, API, Murray et al., 2009).

Personality was measured with the API, a public domain Australian measure of the Five-Factor Model (FFM, Costa and McCrae, 1992). The API consists of 50 items, made up of brief sentences describing people’s typical behaviours. The inventory contains 10 items to represent each construct of the FFM, namely Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C). Example items include “Often feel blue”, “Pay attention to details”, “Do not enjoy going to art museums” and “Accept people as they are”. To avoid acquiescent responding, some items are negatively worded, for example, “Do not like art” is a measure of O and “Seldom feel blue” is a measure of N. On a 5-point Likert scale, where 1 = “very inaccurate” and 5 = “very accurate”, participants
rate the extent to which each statement accurately describes them. Participants are instructed to describe themselves as they honestly see themselves, in relation to other people of the same gender and roughly the same age. Scores on the API are calculated by summing responses to the items pertaining to each factor, and have a possible range of 10 to 50. Higher scores indicate a greater tendency toward displaying the behaviours and qualities representative of each trait.

Based on data retrieved from two samples, the authors of the scale (Murray et al., 2009) reported adequate internal reliability for each of the five API traits. A within-subject tendency toward higher mean scores on API items was identified in one study, and when this was accounted for, the FFM structure was supported in both samples. It was suggested that completion of high school may be necessary for accurate responding to this survey and that in less educated populations, researchers may need to be alert to such an acquiescent response set. The pattern of convergent and divergent associations between API scale scores and the well-established measure of the FFM, the NEO-FFI (Costa & McCrae, 1992), confirmed the similarity of the two instruments and supported the use of the API as a reliable measure of the five personality traits. In the present study, the API evidenced strong psychometric properties, with coefficient alphas ranging from .74 to .87 for the five subscales, and literature-predicted correlations between scale scores and measures of mood, life satisfaction, psychological well-being and generalised psychological distress (see Table 15).

**7.2.5 Measurement of affective outcomes**

The conceptualisation of outcomes adopted in this project is detailed in 5.2. As previously discussed in this section, the project (Study 2 in particular) sought to assess the impact of affect regulation dispositions and deliberate actions/behaviours on level of mood, satisfaction with life, psychological well-being and psychological distress reported by the individual. The specific measures used to capture these outcomes are described below.
Psychological Distress (Kessler-10 Psychological Distress Scale, K-10, Kessler et al., 2002)

Current level of generalised psychological distress (Distress) was measured with the public domain Kessler-10 Psychological Distress Scale (K-10, Kessler et al., 2002). This measure comprises 10 items asking about symptoms of depression and anxiety experienced in the past four weeks. The specific question posed is: “This measure asks you some questions concerning general distress. By selecting a response from the options provided, please indicate the extent to which you believe the following statements describe how you have felt in the last 4 weeks.” The stem for each item is “In the last 4 weeks” and example completions include “about how often did you feel tired out for no good reason?”, “about how often did you feel restless or fidgety?”, and “about how often did you feel so sad that nothing could cheer you up?” Participants respond to items on a 5-point Likert scale, where 1 = “none of the time” and 5 = “all of the time”. An individual’s score is calculated by summing item responses, and can range from 10 indicating no distress, to 50 indicating severe distress. According to 1997 Australian normative data (Andrews and Slade, 2001), 80% of the population score below 20 and are likely to be well and 10% score between 20 and 29. One-third of those scoring between 20-24 and two-thirds of those scoring between 25-29 are likely to meet criteria for a current mental disorder, with mild-moderate disability. Four out of five people scoring 30 and above will meet criteria for a mental disorder and are likely to be severely disabled as a result.

Only a small number of published studies have investigated the psychometric properties of the K-10 (Pirkis et al., 2005). However, those that do exist have indicated the scale has a sound psychometric profile. For example, these characteristics were comprehensively assessed when the scale was included in the 1997 Australian National Survey of Mental Health and Well-Being (Andrews, Henderson, & Hall, 2001), as reported by Andrews and Slade (2001). In this large sample ($N = 10641$), K-10 scores were heavily skewed (as is the case with many measures of psychological distress) whereby the majority of people reported little or no distress (68% of respondents scored under 15, only 3% scored over 30). Women scored significantly higher than men, 14.5 vs 13.9 ($p < .001$). High levels of internal consistency were demonstrated with alphas of .93 in initial pilot studies (Kessler et
al., 2002) and .92 in the NSMHWB (see also Kessler et al.). Concurrent validity was displayed via significant predicted associations between the K10 and a variety of measures of symptomatology and/or disability, including the General Health Questionnaire (GHQ, Goldberg, 1972), the Short Form 12 (SF-12, Ware, Kosinski, & Keller, 1996), the Composite International Diagnostic Interview-Short Form (CIDI-SF, Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998), and the World Health Organization Disability Assessment Schedule (WHO-DAS, Rehm et al., 1999). For example, there were strong associations between a high score on the K-10 and a current CIDI diagnosis of anxiety and affective disorders. Further validation was deduced from the significant positive relationship between K-10 scores and the number of consultations for mental health problems in the previous 12 months. Andrews and Slade discuss that there currently exists no published information concerning the test retest reliability of the scale, and whether it is sensitive to change. The scale’s predictive validity also requires exploration (Pirkis et al., 2005). Sound psychometric properties of the K-10 were revealed in the present study. The scale displayed excellent internal consistency, with a coefficient alpha of .92. The single factor latent structure of the scale, as a measure of global psychological distress, was clearly supported (see Appendix E).

Positive and Negative Affect Schedule (PANAS, Watson, Clark & Tellegen, 1988)

Mood was measured on the 20-item Positive and Negative Affect Schedule (PANAS, Watson, Clark & Tellegen, 1988). This measure was employed in Study 1 of this project, and is detailed in 6.2.2. The strong psychometric profile of the PANAS was replicated in the current Study 2, with internal consistency coefficient alpha of .91 for both PA and NA and factor analytic results confirming the clear two-factor latent structure of the 20 items.

Satisfaction with Life Scale (SWLS, Diener, Emmons, Larsen & Griffin, 1985)

Overall level of life satisfaction (SWL) was measured with Diener et al.’s (1985) public domain Satisfaction with Life Scale (SWLS). This five-item measure assesses the cognitive evaluation of the overall quality of life experiences (DeNeve & Cooper, 1998), and is designed to tap into the broad construct of global life satisfaction (Diener et al.). Particular life domains such as health and work are not
captured, but instead individuals are asked to indicate overall level of life satisfaction by weighting these domains according to their own set of criteria or standard (Pavot & Diener, 1993). On a 7-point Likert scale, where 1 = “strongly disagree” and 7 = “strongly agree”, participants endorse their level of agreement with such statements as “In most ways, my life is close to my ideal” and “The conditions of my life are excellent”. Life satisfaction scores are calculated by summing responses to the 5 items, and have a possible range of 5 to 35, whereby higher scores indicate greater levels of satisfaction. According to established normative data for the scale, drawn from diverse populations in terms of age, cultural background and work environments, the majority of individuals score between 23 and 28, suggesting they are slightly satisfied - satisfied with life (Pavot & Diener). This is considered to concord with findings from Western countries at least, that demonstrate most people report levels of subjective well-being that are slightly above average, and where negatively skewed distributions are revealed on measures of unpleasant affect, such as the Beck Depression Inventory (BDI, Beck, Ward, & Mendelson, 1961).

The SWLS has a good psychometric profile, including an internal consistency alpha of .87 and a 2-month test-retest stability coefficient of .82 (Diener et al., 1985). Internal consistency of the scale was affirmed in Study 2, with a coefficient alpha of .89. The construct validity of the scale has been supported by strong convergent associations with other well-being measures (Diener et al.) and predictable relationships with dimensions of personality: for example, life satisfaction correlates negatively with Neuroticism and positively with Extraversion, Agreeableness, Conscientiousness, and Openness to Experience (DeNeve & Cooper, 1998). The scale has been found to correlate with marital and heath status, and to be unrelated to gender and age (Pavot & Diener). Further, as outlined by Pavot and Diener (1993), strong negative correlations have been revealed between scores on the SWLS and a range of clinical measures of distress, including the Beck Depression Inventory (Beck et al., 1961) and the dimensions of the Symptom Checklist-90 (SCL-90, Derogatis, 1977). A number of factor analytic studies indicate the SWLS contains a single life satisfaction factor, accounting for approximately 66% of the scale’s variance (Pavot & Diener).
Level of psychological well-being (PWB) was assessed with the 18-item version of Ryff’s (1989, Ryff & Keyes, 1995) psychological well-being scale. This measure is comprised of six distinct theory-guided dimensions of wellness: Autonomy; Environmental Mastery; Personal Growth; Positive Relations with Others; Purpose in Life; and Self-Acceptance. Together, they represent a comprehensive and multifaceted conceptualisation of well-being. Item examples include: “In general, I feel I am in charge of the situation in which I live” (Autonomy), “Maintaining close relationships has been difficult and frustrating for me” (Positive Relations with Others, negatively-worded), and “I like most aspects of my personality” (Self-Acceptance). Participants respond on a 5-point Likert scale, where 1 = “strongly disagree” and 5 = “strongly agree”, the extent to which they agreed with the statements concerning “attitudes to life and overall well-being”. Scores are calculated by summing item responses and have a possible range of 18 to 90. Higher scores indicate a greater overall sense of PWB.

Good psychometric properties have been reported for Ryff’s (1989) original longer 120-item scale, including high levels of internal consistency for the subscales, with coefficients ranging from .87 to .93, and in a sample of 117 individuals, 6-week test-retest reliability coefficients ranging from .81 to .88. Ryff (1989) also found support for the construct validity of the scale, with significant positive associations between the six dimensions and other measures of positive functioning (i.e., life satisfaction, affect balance, self-esteem, internal control and morale), and significant negative correlations between the dimensions and measures of negative functioning (e.g., depression). These coefficients ranged from .25 to .73. Significant age differences were identified in responses on all but two of the well-being dimensions (excluded Self-Acceptance and Positive Relations with Others), and it was found that women scored significantly higher on Positive Relations with Others, and showed a trend toward higher scores on the Personal Growth subscale.

Psychometric characteristics of the shorter 18-item version of the scale, used here, were examined in a national telephone survey (N = 1108; Ryff & Keyes, 1995). This briefer version was generated for the purposes of this phone-based survey in order to accommodate time and costs restrictions. Items selected were those that maximised the conceptual breadth of each subscale, and included a mixture of
positively and negatively-phrased items. The shorter scales correlated well with the original 20-item parent scales, ranging from .70 to .89. A sound psychometric profile was again indicated, however the internal consistency alphas were low, given that items were chosen for their comprehensiveness rather than internal coherence. These ranged from .33 to .56. Similarly moderate alphas were identified in the present Study 2, ranging from .48 to .76 for the subscales and .86 for the total score.

7.2.6 Procedure

Data were collected via an online questionnaire using Opinio Software. Recruitment was via an availability sample, accessed through a number of avenues including the researcher’s social and professional network and a selection of Australian-based internet websites (e.g., Swinburne University Higher Education and Psychology Clinic sites, The Australian Psychological Society Research Pages) and international sites (“Online Psychology Research UK”, “Psychological Research on the Net”, “Online Social Psychology Studies”, and “Inquisitive Mind”). The nature of the research was explained on the cover sheet appearing at the commencement of the electronic survey (see Appendix M), which assured participants that their involvement in the study was voluntary, their responses would be completely anonymous and they were free to withdraw at any time. Information concerning counselling support and referral services, should they be required, was also listed on this cover sheet. Informed consent was implied by completion and submission of the questionnaire.

7.2.7 Data Treatment

Major analyses

Data were analysed using general linear modelling techniques, including bivariate correlation, standard and hierarchical multiple regression, univariate analysis of variance (ANOVA), factor analysis and structural equation modelling. Specifically, bivariate correlations were calculated for assessing the impact of affect regulation strategies on affective outcomes (Research Aim 2). One-way between-groups analyses of variance (ANOVA) was used to examine gender differences in responses to the two types of affect regulation variable (Research Aim 7). Investigation of the psychometric properties of the ARI (Pirzas, 2006) included an examination of latent structure via exploratory and confirmatory factor analysis and
consideration of bivariate correlations between strategy subscales and the affective outcome variables for determining construct validity (Research Aim 1). The ARI was subjected to both an EFA and CFA in view of the latter being theoretically-opposed to data-driven, and to allow for more precise testing of the hypothesised three-dimensional model underpinning this instrument. That is, CFA allows for a priori specification of the number of factors to be extracted and the way in which the items and factors will be related (Cunningham, 2008).

Multiple regression models investigated Research Aims 2, 3, 4, 5 and 6. First, regression was used to examine the impact of the two types of affect regulation variable (dispositions and strategies) on affective outcomes. Five regression models were tested, one for each affective outcome variable acting as dependent variable (DV) of interest. The predictor variables in each of these models were the affect regulation dispositions (DERS variables), strategies (ARI variables) and personality (API) variables. The models tested the relative impact of these independent predictors when all variables were competing for variance. This analytic strategy allowed for assessing which of the variables were significant and unique predictors of outcomes (Hypotheses 5, 6 and 7 in particular).

A series of two-stage hierarchical regressions were conducted to examine potential moderators (i.e., gender and level of Neuroticism) of the relationship between affect regulation strategy use and affective outcomes (Research Aim 5). Again, five regression models were tested, one for each affective outcome. First, the predictors (the affect regulation strategy scales, gender and level of Neuroticism) were centered, by subtracting the sample mean score from the participant score on these scales. Interaction terms were created by computing the product of the three centered ARI strategy scales with centered Neuroticism and the centered ARI scales with participant gender. In the first stage, the centered variables were entered into the regression model. The interaction terms were entered second. These analyses questioned whether Neuroticism or gender moderated the association between affect regulation strategies and outcomes. ARI strategy scores were categorised into low, medium and high groups by SPSS default, to aid with graphical representation and interpretation of significant interaction effects.

Following the investigation via bivariate correlations and multivariate regression, Structural Equation Modelling (SEM) with AMOS (17.0) was used to
further probe relationships between affect regulation strategies, dispositions and personality variables in the prediction of the five affective outcome variables. The use of SEM in Study 2 allowed for investigating latent variables in the models, including testing the suitability of the constructs “affect regulation strategy use” and “affect regulation dispositions”. Further, SEM accounts for measurement error when modeling relationships between study variables and tests “goodness-of-fit” in relation to how closely the sample data supports the hypothesised model (Cunningham, 2008). As with the regression analyses, five structural models were tested: one for each affective outcome DV. The predictor variables were the affect regulation dispositions (DERS), strategies (ARI) and personality variables (API). The models tested the relationships between these independent variables in the context of each affective outcome, and the extent to which the data supported the hypothesised model. SEM was employed to investigate Research Aims 3 and 6, and Hypothesis 8 in particular.

Model development and refinement strategies

A series of five structural models were tested, one for each DV, in the SEM component of data analysis. As outlined in 5.2, a decision was made to separate these models hierarchically into primary and secondary models, with the key languishing DV (K-10 psychological distress, Kessler et al., 2002) and key flourishing DV (PA scale of the PANAS, Watson et al., 1988) explored in great detail and the remaining languishing and flourishing DVs evaluated in relation to the final, best fitting primary model. As discussed in 5.2, Psychological Distress and PA were selected as the primary languishing and flourishing variables as they were considered to measure the core of the constructs (see Keyes, 2005).

All predictor variables were included in the initial model building stages for the primary DVs Psychological Distress and PA. These models were adjusted on the grounds of model fit, with nonsignificant predictors excluded. The best fitting model identified for these two primary DVs was the starting point for investigating the secondary models, which included: NA (languishing), SWL and PWB (flourishing). This process tested whether the primary models generalise to or were robust across the other measures.

Model fit was evaluated using the set of goodness-of-fit indices recommended by Kline (2005). These are: (1) the model chi-square; (2) the root mean square error
of approximation (RMSEA) and the 90% confidence interval associated with this index; (3) the comparative fit index (CFI) and; (4) the standardised root mean square residual (SRMR). For chi-square, a significance level of > .05 was considered a good fit. It was noted however that this statistic cannot be considered in isolation as it is sensitive to sample size and can lead to inappropriate rejection of a model if the sample is large (Kline). For RMSEA, values < .05 were taken to indicate a good fit, values between .05 and .08 suggested a reasonable fit, and values ≥ 1.0 indicated a poor fitting model. For the CFI, values > .90 suggested a good fitting model. For the SRMR, values < .10 indicated the model was a reasonable fit for the data. Whether or not the parameter estimates made theoretical sense was also considered when assessing the overall suitability of the model. Furthermore, the Bollen-Stine bootstrap p (Bollen & Stine, 1993) significance level was interpreted for assessing model fit, in order to adjust for the lack of multivariate normality in this data. Multivariate normality was tested according to Mardia’s coefficient (Mardia, 1970), with values greater than 3 suggesting the presence of multivariate kurtosis.

Following the identification of a poor fitting model, adjustments were made systematically in an attempt to improve overall goodness-of-fit. These adjustments followed recommended guidelines including: significance of the factor loadings; relative size of the standardised loadings; size of the standardised residual covariances; and; meaningful suggestions outlined by the modification indices (Cunningham, 2008). Specifically, non-significant predictors of the dependent variable were considered for removal. Values exceeding 2 in the standardised residuals covariance matrix indicated unaccounted shared item variance, and the addition of paths between these items was considered. Modification indices that exceeded 4 were used as a further guide for the addition of paths of association between items or scales. Potential changes for improvement were screened for theoretical plausibility and alignment with the study hypotheses (Kline, 2005).

Item parceling was used in the structural models. This is a recommended treatment for ordinal data sets built from Likert scale surveys and for reducing the impact of nonnormality in the data (Cunningham, 2008). Munck’s (1979) formula was employed for specifying these single indicator latent variable models with internally consistent item parcels.
A higher-order measurement model was created during the model generating stage for the primary languishing model: Generalised Psychological Distress. In particular, the individual subscales of the DERS had high residuals, greatly exceeding the recommended magnitude of 2 (Cunningham, 2008), which suggested that correlations between these scales were not captured in the model. A higher-order construct, “Affect Regulation Dispositions”, was used to represent the shared variance between the lower order DERS factors. The reader may have anticipated a different name be given to the higher-order construct for the DERS factors, in view of the scale’s title “Difficulties in Emotion Regulation Scale”. However, as noted in 5.1, “affect regulation dispositions” is used throughout this thesis in reference to Gratz and Roemer’s (2004) DERS, to capture one of the two aspects of the affect regulation process explored in the present project.

Identification and treatment of suppression effect

Statistical suppression (Tabachnick & Fidell, 2001) was identified in the final structural model for predicting Psychological Distress (see 7.3.11). As defined by Tabachnick and Fidell, negative or net suppression was identified, whereby the regression weight of an IV is oppositely signed from what would be anticipated based on the raw correlation between the IV and DV. The approach proposed by Tabachnick and Fidell to identify the suppressor variable in this model was followed. Specifically, these authors suggest each independent variable be excluded from the model and the size and direction of the regression coefficients for the remaining variables closely inspected for incongruence with raw correlations. Model results are then interpreted with an acknowledgement that a suppressor variable was evident, which likely enhanced the importance of other independent predictors because of partialing out their irrelevant variance. These authors discuss that there are times when an individual suppressor variable is not identified, which is referred to instead as a suppression situation (Tzelgov & Henik, 1991).

Maassen and Bakker (2001) also discuss the treatment and interpretation of suppressor variables in path models. They propose that interpreting a negative suppressor situation, as evident in the present study, is particularly problematic. While it is possible to remove an identified suppressor from a model when there are other variables in the model that capture the same content domain, this is not an
option when the predictors are heterogenous and represent different aspects of the theory, as was the case in the present model. These authors state that if a suppressor variable or suppression situation is revealed and it is not possible to remove the problematic variable, the conclusion may be that the theoretical model was not retained because of the existence of a suppressor phenomenon.

**Interpretation of effect sizes**

In the present study, effects sizes were interpreted in consultation with two sources: Cohen’s (1988) effect size guidelines; and the classificatory scheme proposed by Richard, Bond and Stokes-Zoota (2003). In particular, consistent with Cohen, effects of a magnitude .10 or less were considered small. Contrary to Cohen’s guidelines however, an effect of .20 was considered medium-sized and .30 was considered large. These interpretations concur with Richard et al. (2003) following their review of a century of effect sizes in social psychological research. In their analysis of the magnitude and variability of social psychological effects across 25,000 studies, these authors found that the average effect size was $r = .21$. Based on their results, they contended that, consistent with Cohen, .10 was a small effect, relative to most effects identified in the literature, but that .20 was medium-sized and .30 was a large effect, found in less than 25% of mean effects reported. Richard et al. (2003) indicated that only a very limited number of studies revealed effect sizes of a magnitude greater than .50. Additionally, in their meta-analysis of the literature concerning personality and coping, Carver and Connor-Smith (2010) discussed that relations between coping strategies and outcomes, such as adjustment for example, tend to be small to moderately-sized. They further outlined that coping has shown stronger associations with psychological outcomes than physical health. These assertions and past findings were considered during interpretation of the identified effect sizes in this study.

Consideration of effect size is also relevant in relation to the ANOVA results concerning gender differences on ARI and DERS scales. It is acknowledged that in a sample of this magnitude, small group differences that are of minimal practical importance can become statistically significant (Pallant, 2001). In many cases, the actual difference in scale scores between men and women in this sample were very modest in size (see Table 23). Relatedly, the partial eta squared statistic

115
demonstrating the size of significant gender differences was .03 and less. Having recognised these limits to the practical importance of the findings, they remain worthy of consideration.

**Missing data**

While the treatment of missing values in survey data is a contentious issue, there is a degree of consensus that participants with a substantial number of items missing across an entire questionnaire are profitably removed from the data (Cool, 2000). Adhering to this guideline, cases with 30% or more missing values overall were removed. Further, in line with Murray et al. (2009), cases with 20% or more missing values from *any given scale* were removed from the data set. A Missing Values Analysis (MVA) using SPSS was performed on the remaining data, to identify the overall pattern or randomness of the missing data. Values were imputed for those remaining cases with small portions of missing data, using the Expectation Maximization (EM) algorithm in SPSS MVA (see Tabachnick & Fidell, 2001, p.63).

**7.3 Results**

**7.3.1 Missing Data**

The extent of missing data was first assessed. In the total sample \(N = 1188\), 14.7% of overall data points were missing. This missing data was located in 46.5% of participant cases. The portion of missing values for the seven scales was varied (in presentation order): ARI - 0.26%; DERS - 9.38%; API - 14.81%; K10 - 16.24%; PANAS - 20.37%; Ryff’s well-being scales – 23.02%; and SWLS - 21.75%. Consistent with participant attrition that would be expected in a survey of this length (174 items in total, excluding demographics), missing values were more common later in the questionnaire.

As stated in 7.2.8, cases with missing values were removed consistent with Murray et al. (2009). A sample of \(N = 924\) remained, with missing values appearing in 289 of these cases (31.3% of the sample) and all of these had 11 or less total survey responses missing. The majority of participants with missing data had 6 or fewer missing values in total.
The Missing Values Analyses (MVA) showed that Little’s (1988) MCAR test just reached significance, $\chi^2 = 3349.88$, df = 3214, $p = .047$, however the assumption of missing completely at random was considered reasonable in light of the large sample size. Values were imputed using EM for the 289 cases with small portions of missing data.

7.3.2 Normality

Normality was assessed with a combination of graphical and statistical methods. The distribution of all continuous variables was first examined with frequency histograms, expected normal probability plots and detrended expected normal probability plots (see Appendix D), which identified a number of non-normal distributions. Specifically, the three subscales of the ARI were all approximately normally distributed. Four of the six DERS subscales (GOALS and AWARENESS were normally distributed) were positively skewed. DERS Total was approximately normally distributed, but had a slight positive skew. Four of the five API subscales exhibited a slight negative skew. N was the exception to this, which had a marginal positive skew. Scores on the K-10 showed a clear positive skew. Both PANAS subscales were skewed: PA had a slight negative skew; NA had a clear positive skew. All six of Ryff’s well-being subscales including Ryff Total and the SWLS displayed a slight negative skew.

The continuous variables exhibited only mild violations from normality, deemed insufficient to warrant transformation. Retention of raw distributions was also supported in light of the present study’s scores being reflective of underlying distributions in the general population on the particular variables being measured (see Pallant, 2001, p.59). Specifically, the mild to moderate positive skew of scores on the DERS, K-10, N subscales of the API and NA subscale of the PANAS indicate that the majority of participants in the present study reported low scores on these variables, which represent low levels of emotion dysregulation, psychological distress, neuroticism and negative affect. This is to be expected in a wide community sample. Further, the mild to moderate negative skew of the distributions for the remaining API subscales, PA subscale of the PANAS, Ryff’s well-being scales and the SWLS, indicating that most participants endorsed high levels of the personality traits E, O, A and C and of the well-being variables assessed, are also as expected in this general
community, non-clinical sample. The decision to retain these distributions was supported by the absolute skewness and kurtosis values which were all below 2 and most were less than 1. Although these were statistically significant, this is expected in the present study’s large sample, and is less informative than the low absolute value of these statistics (Tabachnick & Fidell, 2001, p.74; West, Finch, & Curran, 1995).

7.3.3 Outliers

Fifteen univariate outliers with standardised scores greater than 3.29 were identified. These were due to a small number of very low scores on Active Mood Management (ARI), Seeking Pleasure/Distraction (ARI), Openness (API), Agreeableness (API), Personal Growth (Ryff) and Purpose in Life (Ryff). According to Tabachnick and Fidell (2001, p.68), a small number of standardised scores in excess of 3.29 are acceptable in large data sets. However, a substantial number of multivariate outliers were also identified. Specifically, 141 cases displayed a Mahalanobis distance greater than the critical chi-square value of 37.697 ($p < .001$). These were retained during the initial screening process and investigated further during the regression and Structural Equation Modelling analyses.

7.3.4 Multicollinearity

Examination of the correlation matrix for all continuous variables for evidence of multicollinearity (correlations > .90, Tabachnick & Fidell, 2001, p.83) showed that all correlations were less than .90.

7.3.5 Linearity and Homoscedasticity

Linearity and homoscedasticity were initially assessed with pairwise bivariate scatterplots generated for all independent and dependent variable combinations. These indicated reasonable consistency of spread through the distributions, suggesting there were no serious violations of either assumption. Further investigations were conducted during regression analyses.
7.3.6 Descriptive Statistics

The means, standard deviations and reliabilities for all continuous variables are presented in Table 12 below. Values for skewness and kurtosis, and the observed range of variables are demonstrated. Where available, population norms are also presented.

Table 12: Means, Standard Deviations, Observed Range, Cronbach’s Alpha, Absolute Skew and Kurtosis Statistics and Published Norms for all Continuous Variables

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Scale</th>
<th>M</th>
<th>SD</th>
<th>Observed range</th>
<th>a</th>
<th>Skew</th>
<th>Kurt</th>
<th>Norm</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARI</td>
<td>Active Mood Mgmt</td>
<td>16.3</td>
<td>3.3</td>
<td>5-25</td>
<td>.67</td>
<td>-.31</td>
<td>.27</td>
<td>16.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Passive Mood Mgmt</td>
<td>14.2</td>
<td>3.3</td>
<td>5-25</td>
<td>.54</td>
<td>.16</td>
<td>.09</td>
<td>13.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seeking</td>
<td>15.8</td>
<td>3.1</td>
<td>5-25</td>
<td>.51</td>
<td>-.10</td>
<td>.46</td>
<td>15.9</td>
<td></td>
</tr>
<tr>
<td>DERS</td>
<td>Acceptance</td>
<td>13.4</td>
<td>5.7</td>
<td>6-30</td>
<td>.90</td>
<td>.89</td>
<td>.33</td>
<td>12.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Goals</td>
<td>14.9</td>
<td>4.7</td>
<td>4-25</td>
<td>.87</td>
<td>.13</td>
<td>-.80</td>
<td>15.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impulse Control</td>
<td>12.4</td>
<td>5.3</td>
<td>6-30</td>
<td>.90</td>
<td>1.0</td>
<td>.63</td>
<td>13.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Awareness</td>
<td>14.9</td>
<td>4.6</td>
<td>6-30</td>
<td>.82</td>
<td>.40</td>
<td>-.22</td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Access to Strategies</td>
<td>17.5</td>
<td>7.2</td>
<td>7-40</td>
<td>.91</td>
<td>.85</td>
<td>.08</td>
<td>19.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clarity</td>
<td>10.9</td>
<td>3.7</td>
<td>5-24</td>
<td>.82</td>
<td>.67</td>
<td>.24</td>
<td>11.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DERS Total</td>
<td>84.1</td>
<td>23.1</td>
<td>38-154</td>
<td>.94</td>
<td>.67</td>
<td>-.00</td>
<td>87.5</td>
<td></td>
</tr>
<tr>
<td>API</td>
<td>Neuroticism</td>
<td>27.0</td>
<td>8.1</td>
<td>10-50</td>
<td>.87</td>
<td>.33</td>
<td>-.44</td>
<td>24.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Extraversion</td>
<td>33.2</td>
<td>7.5</td>
<td>10-50</td>
<td>.87</td>
<td>-.37</td>
<td>-.17</td>
<td>31.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Openness</td>
<td>37.3</td>
<td>6.1</td>
<td>16-50</td>
<td>.74</td>
<td>-.23</td>
<td>-.33</td>
<td>32.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agreeableness</td>
<td>37.5</td>
<td>6.1</td>
<td>15-50</td>
<td>.81</td>
<td>-.47</td>
<td>-.04</td>
<td>39.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conscientiousness</td>
<td>35.7</td>
<td>7.</td>
<td>15-50</td>
<td>.85</td>
<td>-.35</td>
<td>-.26</td>
<td>38.0</td>
<td></td>
</tr>
<tr>
<td>K10</td>
<td>K10 – Psych Distress</td>
<td>21.4</td>
<td>8.2</td>
<td>10-50</td>
<td>.92</td>
<td>.92</td>
<td>.48</td>
<td>14.2</td>
<td></td>
</tr>
<tr>
<td>PANAS</td>
<td>PA</td>
<td>31.8</td>
<td>8.4</td>
<td>10-50</td>
<td>.91</td>
<td>-.22</td>
<td>-.40</td>
<td>32.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NA</td>
<td>21.0</td>
<td>8.6</td>
<td>10-50</td>
<td>.91</td>
<td>.10</td>
<td>.46</td>
<td>19.5</td>
<td></td>
</tr>
<tr>
<td>Ryff</td>
<td>Autonomy</td>
<td>10.5</td>
<td>2.1</td>
<td>4-15</td>
<td>.51</td>
<td>.24</td>
<td>.13</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Enviro Mastery</td>
<td>10.6</td>
<td>2.3</td>
<td>3-15</td>
<td>.65</td>
<td>.47</td>
<td>-.14</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Personal Growth</td>
<td>12.2</td>
<td>2.0</td>
<td>5-15</td>
<td>.62</td>
<td>.84</td>
<td>.61</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Positive Relations</td>
<td>11.0</td>
<td>2.6</td>
<td>3-15</td>
<td>.63</td>
<td>-.50</td>
<td>-.35</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Self-Acceptance</td>
<td>11.0</td>
<td>2.6</td>
<td>3-15</td>
<td>.76</td>
<td>-.73</td>
<td>.06</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Purpose in Life</td>
<td>11.7</td>
<td>2.2</td>
<td>3-15</td>
<td>.48</td>
<td>-.63</td>
<td>.19</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ryff Total</td>
<td>67.0</td>
<td>10.0</td>
<td>27-90</td>
<td>.86</td>
<td>.52</td>
<td>.06</td>
<td>84.1</td>
<td></td>
</tr>
<tr>
<td>SWLS</td>
<td>Satisfaction with Life</td>
<td>22.6</td>
<td>7.3</td>
<td>5-35</td>
<td>.89</td>
<td>-.48</td>
<td>-.52</td>
<td>23.5</td>
<td></td>
</tr>
</tbody>
</table>

N = 924

As shown in Table 12, moderate internal reliability alphas were found for the three ARI scales. These were slightly higher than the scores identified in Study 1 (see Table 6 and Table 7). The alphas for the remaining scales were moderate to high.
Exceptions were the six Ryff subscales and total score, which displayed low to moderate alphas, anticipated in light of the small (i.e. 3) number of items per subscale.

Examination of average ARI scores in this data and the normative sample shows comparable levels of use of the strategies represented in the three subscales. Average scores on the DERS subscales in this sample were similar to the normative group, excluding Strategies, which was slightly lower in this study. The mean DERS total score was lower in this sample compared to Tull et al. (2007), indicating participants in this study reported comparatively lower levels of overall emotion dysregulation. Average levels of N, O and C in this sample were different to the published API norms, highlighting greater N and O and lower C. Mean scores on E and A in this data were similar to the normative sample. Average scores on the K-10 showed participants in this sample reported markedly higher levels of generalised psychological distress compared to the normative group. Comparison of the mean scores on the PANAS PA and NA scales, and the SWLS scale in this sample and the normative data showed these were similar. Average total scores on Ryff’s well-being scale were lower in the present data set compared to the published 2006 data, indicating lower levels of overall psychological well-being.

7.3.7 Investigations of Latent Structure

The latent structure of all study instruments was assessed using EFA. Overall, these analyses supported the dimensionality of the instruments as scored. In particular, there was clear replication of the six-factor structure put forward by the scale authors of the DERS (Gratz & Roemer, 2004) when an alternate factor extraction method was used (i.e., Maximum Likelihood rather than Principal Axis Factoring (PAF). The anticipated five-factor solution of the API (Murray et al., 2009) approached simple structure, however 7 of 50 items loaded on an unexpected factor. Conscientiousness was most robust of the five factors, with all 10 items pertaining to this scale having their highest loading on the single factor. Latent structure investigation of the K10 (Kessler et al., 2002), PANAS (Watson et al., 1988), and SWLS (Diener et al., 1994) showed results that were uniform with the factor structure presented by the scale authors. These findings included factor solutions that accounted for a sizeable portion of total item variance and that employed the same methodology as the scale authors. The six-factor structure of Ryff’s (1989; Ryff &
Keyes, 1995) PWB scales was not clearly replicated, as items did not group together on the factors as intended. The scale authors have outlined more suitable methods for assessing the validity of their scale however (see 7.2.5). The EFA findings for all study instruments are displayed in Appendix E and discussed in 7.4.
7.3.8 Results for Aim 1: Factor structure of the Affect Regulation Inventory (ARI)

Exploratory Factor Analysis (EFA)

The latent structure of the 15-item ARI was first investigated using EFA. The data were deemed suitable for factor analysis, as the Kaiser-Meyer Olkin (KMO) value was .73, indicating there was sufficient shared variance to be explored, and Bartlett’s Test was significant at < .001, providing further evidence of the factorability of the correlation matrix.

A series of factor analyses were conducted. The preferred solution employed a Maximum Likelihood Extraction with Direct Oblimin oblique rotation. Kaiser’s criterion identified five factors in the data set. However, the scree plot (see Figure 2) displayed a tailing off after the third factor and it was decided that these three factors (also identified in preliminary analyses of this scale, Pirzas, 2006) would be retained for further investigation. The analysis was repeated, with a three-factor extraction imposed. Results of this analysis are displayed in Table 13, which supports previous findings indicating the 15 individual items are represented by three broad categories.

Figure 2: Scree Plot for ARI Factors
The rotated three-factor solution approached simple structure, with most variables loading significantly on only one factor, and all factors having a number of significant loadings. This solution was retained, as it accounted for a reasonable portion of the total item variance (27.8%), was theoretically interpretable and was comparable to the three-factor solution presented by the original authors of these strategy items (Thayer et al., 1994) and the earlier work by the present study authors (Pirzas, 2007). However, the solution had limitations, including low item communalities (items 1, 5, 6, 7, 13 and 14 were < .2), low factor loadings (items 5 and 14 were < .3) and a clear cross-loading for item 9 on F1 (.28) and F3 (.29), and a highly significant chi-square ($\chi^2 = 271.62$, $p < .001$). These results were not improved with different extraction and rotation methods.

In keeping with the preliminary findings by Pirzas (2006), the first factor was labeled Seeking Pleasure/Distraction, as it consisted largely of items that involved engaging in a pleasant activity, which could be thought to improve mood by diverting attention away from affect. One item loading on this factor (1: *call, talk to, or be with someone*) fit less well than the others, as it could be conceived to involve focusing attention toward a mood, in order to discuss its causes and symptoms with another

### Table 13: Factor Structure of the ARI using Maximum Likelihood Extraction With Oblique Rotation

<table>
<thead>
<tr>
<th>ARI Item</th>
<th>Factor 1 Seeking Pleasure/Distraction</th>
<th>Factor 2 Active Mood Management</th>
<th>Factor 3 Passive Mood Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Engage in pleasant (fun) activity</td>
<td>.94</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Listen to music</td>
<td>.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Call, talk to or be with someone</td>
<td>.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Exercise</td>
<td>.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Evaluate or analyse the situation</td>
<td>.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Put feelings in perspective</td>
<td>.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Control thoughts</td>
<td>.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 Engage in stress management activities</td>
<td>.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Use relaxation techniques</td>
<td>.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Drink caffeinated beverage</td>
<td>.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Eat something</td>
<td>.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Engage in emotional activity</td>
<td>.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 Drink alcohol</td>
<td>.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Watch TV</td>
<td>.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Have sex</td>
<td>.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of variance explained</td>
<td>13.6</td>
<td>8.3</td>
<td>5.9</td>
</tr>
</tbody>
</table>

$N = 924$
person. However, its grouping with the other items comprising this factor is interpretable in the sense that participants may have understood this item as distracting oneself from a negative mood by mixing with others. Also consistent with the prior findings, the second factor was labeled Active Mood Management as it comprised strategies that actively addressed mood, as well as cognitive techniques designed to improve mood by controlling thoughts or analysing the affective state. Consistent with preliminary work, the third factor was labeled Passive Mood Management, as it included strategies that do not involve actively engaging with a mood, but instead, indirect attempts at reducing associated tension and symptoms. There was a moderate correlation between Seeking Pleasure/Distraction and Active Mood Management ($r = .33$), which could underscore the expected well-being benefits from the regulation strategies belonging to these dimensions. There was also a moderate correlation between Seeking Pleasure/Distraction and Passive Mood Management ($r = .29$), which is interpretable in view of these affect regulation strategies being characterised by diversion of one’s attention, rather than direct dealing with an emotional state or its cause. There was no association between the dimensions of Active and Passive Mood Management, providing some support for the suitability of this factor solution.

Results from the EFA of the ARI supported this author’s preliminary investigations (Pirzas, 2006) indicating the 15 strategy items were best represented by three distinct dimensions. However, the neat 5-item three-factor structure identified with EFA in the previous work was not replicated. The current study found three dimensions warranting the same labels as previously, with just a single item (item 14, *have sex*) loading on a different factor (Passive Mood Management rather than as previously on Seeking Pleasure/Distraction). The final solution was however impeded by low communalities and factor loadings and a selection of cross-loading items. Such difficulties experienced in factor analysing this affect regulation strategy content was discussed by the original authors of these items (Thayer et al., 1994) who contended that the relative independence of the items meant there were no clear guidelines to follow in extracting factors from this data.
Confirmatory Factor Analysis (CFA)

Maximum-Likelihood (ML) confirmatory factor analyses were conducted to test the hypothesised three-dimensional structure of the ARI. Each of the three proposed subscales were first assessed in single-factor congeneric analyses (Cunningham, 2008, p.5-3). The ARI was then evaluated in a multi-factor measurement model, with all three scales included.

Active Mood Management

As per Pirzas (2006) and Study 2 EFA results, it was hypothesised that the ARI items 2 control thoughts, 3 evaluate or analyse the situation, 4 put feelings in perspective, 10 use relaxation techniques, and 15 engage in stress management techniques would comprise an Active Mood Management factor (see Figure 3). A CFA using ML estimation found the data were an adequate fit to the model, $\chi^2 = (5, N = 920) = 24.82, p < .001$ (Bollen-Stine $p < .01$), RMSEA = .07 (.04; .09), CFI = .97 and SRMR = .03. An elevated Mardia’s coefficient of 3.12 suggested the presence of multivariate kurtosis in the data, and four observations had a Mahalanobis d-squared value that was markedly higher than remaining observations. These outlying cases were removed one at a time, which reduced Mardia’s coefficient to 1.69, indicating multivariate non-normality was not the cause for model misfit. In this reduced sample ($N = 920$), the model was reevaluated and found to be a similarly adequate fit to the data, $\chi^2 (5) = 26.27, p < .001$ (Bollen-Stine $p < .01$), RMSEA = .07 (.04; .09), CFI = .97 and SRMR = .03. Although the chi-square generated for this model was highly significant, this statistic is overly sensitive in large samples (Kline, 2005) and there was some support for the model identified by the practical fit indices reported above.

![Figure 3: Five-Item Factor Solution for Active Mood Management](image-url)
The factor loadings for the five items were significant at \( p < .001 \). The standardised loadings were: control thoughts \( \beta = .58 \); evaluate or analyse \( \beta = .69 \); put feelings in perspective \( \beta = .73 \); use relaxation techniques \( \beta = .38 \); stress management techniques \( \beta = .37 \). One standardised residual exceeded the recommended magnitude of 2 (Cunningham, 2008), which suggested these items could be implicated in the model misspecification. This residual was for stress management and relaxation (\( = 3.74 \)) which also had lower factor loadings compared to the remaining three items. Given that the stress management item was a neater theoretical fit with the other items comprising this factor, relaxation was removed in an attempt to improve model fit. The data were found to be a good fit to this four item model (see Figure 4), \( \chi^2 (4) = .35, p > .05 \) (Bollen-Stine \( p > .05 \)), RMSEA = .00 (.00; .04), CFI = .1.0 and SRMR = .00.

![Figure 4: Four-Item Factor Solution for Active Mood Management](image)

In sum, CFA analyses suggested the optimal solution for the Active Mood Management factor consisted of four items. The five-item solution was also acceptable however, as supported by the practical fit indices and significant factor loadings and this solution was preferred for the remaining analyses in the current study because of its comprehensiveness.

**Passive Mood Management**

As per Pirzas (2006), it was hypothesised that the ARI items 7 engage in emotional activity, 9 watch TV, 11 eat something, 12 drink caffeinated beverage, and 13 drink alcohol would comprise a Passive Mood Management factor (see Figure 5). It was also investigated whether the Study 2 EFA results for this factor would be replicated in the CFA, i.e., whether item 14 have sex would also load with these items,
contrary to the 2006 preliminary work. A CFA using ML estimation found the data were not a satisfactory fit to the model, $\chi^2 = (5, N = 924) = 42.12, p < .001$ (Bollen-Stine $p < .01$), RMSEA = .09 (.07; .12), CFI = .90 and SRMR = .04.

Figure 5: Five-Item Factor Solution for Passive Mood Management

Factor loadings for the five items were significant at $p < .001$. The standardised loadings for drink alcohol ($\beta = .26$) and engage in emotional activity ($\beta = .29$) were substantially lower than the others ($\beta$'s = .46, .51, .69), suggesting these items were responsible for model misspecification. The drink alcohol item was also involved in the two standardised residual covariances that exceeded 2, including with eat something (2.11) and drink caffeinated beverage (3.80). When this item was removed, the data were an excellent fit to the model (see Figure 6), $\chi^2 = (2, N = 924) = 2.20, p > .05$ (Bollen-Stine $p > .05$), RMSEA = .01 (.00; .07), CFI = .1.0 and SRMR = .01. The factor loadings were significant at $p < .001$ and the standardised loadings were: engage in emotional activity = .27; watch TV = .43; eat something = .80; drink caffeinated beverage = .44. In sum, CFA analyses suggested Passive Mood Management was optimally represented by four rather than five ARI items.

Figure 6: Four-Item Factor Solution for Passive Mood Management

127
Seeking Pleasure/Distraction

As per Pirzas (2006), it was hypothesised that the ARI items 1 call, talk to, or be with someone, 5 exercise, 6 listen to music, 8 engage in pleasant or fun activities and 14 have sex would comprise a Seeking Pleasure/Distraction factor (see Figure 7). It was of interest whether item 14 would load neatly on this factor or on Passive Mood Management as per the 2007 analyses. A CFA using ML estimation found the data were an adequate fit to this model, $\chi^2 = (5, N = 924) = 20.90, p < .01$ (Bollen-Stine $p < .01$), RMSEA = .06 (.03; .09), CFI = .95 and SRMR = .03.

The factor loadings for the five items were significant at $p < .001$. The standardised loading for have sex ($\beta = .26$) was markedly lower than the other items (exercise $\beta = .31$; call someone $\beta = .41$; music $\beta = .44$; pleasant/fun activities $\beta = .74$). There was one standardised residual covariance that exceeded 2, for the items call someone and exercise (-3.05). Based on the low standardised loading, it was decided that the have sex item would be removed from the model in an attempt to improve the fit. This worsened the fit of the data to the model however, $\chi^2 = (2, N = 924) = 16.52, p < .001$ (Bollen-Stine $p < .01$), RMSEA = .09 (.05; .13), CFI = .94 and SRMR = .04.

It can be inferred from these CFA results that the optimal solution for the Seeking Pleasure/Distraction factor included the five ARI items. This solution was supported by the practical fit indices being within their approved ranges, and the significant standardised loadings for each of the items.

Consistent with Pirzas (2006) and the EFA findings in Study 2 (excluding that item 14 have sex loaded on Passive Mood Management rather than the anticipated Seeking Pleasure/Distraction), CFA analyses of the ARI supported the five-item structure for two of the three scales in this instrument. There was one scale, Passive
Mood Management, that was optimally represented by four rather than five items. Overall however, the CFA analyses indicated that the latent structure matches the surface structure of the ARI as scored.

**Multi-Factor Measurement Model**

A three-factor measurement model comprising the latent constructs Active Mood Management, Passive Mood Management and Seeking Pleasure/Distraction was then tested in a CFA using ML estimation. It was hypothesised that items would load uniquely on their particular factor, with each factor comprising five ARI items. The model was specified to allow for correlations between the factors. Figure 8 displays this multi-factor model.

![Diagram of the three-factor measurement model for the Affect Regulation Inventory](image)

Figure 8: Three-Factor Measurement Model for the Affect Regulation Inventory

Results indicated the data were a poor fit to the hypothesised three-factor model, \( \chi^2 (87, N = 924) = 458.38, p < .001 \) (Bollen-Stine \( p < .01 \)), RMSEA = .07 (.06; .07), CFI = .79 and SRMR = .06. An elevated Mardia’s coefficient (22.95) suggested the data contained multivariate kurtosis, however the systematic removal of
three clearly outlying cases with high Mahalanobis d-squared values did not improve the solution and model fit. As expected, the results indicated there was no association between the Active and Passive Mood Management factors and so this correlation arrow was next removed from the model. This model did not improve on the previous results, \( \chi^2 = (88, N = 924) = 460.97, p < .001 \) (Bollen-Stine \( p < .01 \)), RMSEA = .07 (.06; .07.), CFI = .79 and SRMR = .06. The factor loadings were all significant at \( p < .001 \) and the standardised loadings ranged from a low of .29 for drink alcohol and engage in emotional activity to a high of .71 for put feelings in perspective. The correlation between Active Mood Management and Seeking Pleasure/Distraction was .40 \( (p < .001) \) and between Passive Mood Management and Seeking Pleasure/Distraction was .50 \( (p < .001) \). A number of the standardised residuals exceeded the recommended magnitude of 2 (Cunningham, 2008). These were evenly spread across all the items however and did not highlight any problematic items in particular. Inspection of the structural coefficients supported the discriminant validity of the Active Mood Management factor, but not for Seeking Pleasure/Distraction or Passive Mood Management. Specifically, the Passive Mood Management item eat something displayed a higher loading on Seeking Pleasure/Distraction than two of the items pertaining to this scale: exercise; have sex. The Seeking Pleasure/Distraction item engage in pleasant or fun activities loaded higher on the Passive Mood Management factor than two of the items pertaining to this scale: drink alcohol; engage in emotional activity. The factor patterns and structure coefficients for the three factors are presented in Table 14.
Table 14: Factor Pattern and Structure Coefficients for Affect Regulation Inventory Subscales

<table>
<thead>
<tr>
<th>Items</th>
<th>Active Mood Management</th>
<th>Passive Mood Management</th>
<th>Seeking Pleasure/Distraction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P S</td>
<td>P S</td>
<td>P S</td>
</tr>
<tr>
<td>2 Control thoughts</td>
<td>.58 .58</td>
<td>0 0</td>
<td>0 .23</td>
</tr>
<tr>
<td>3 Evaluate or analyse</td>
<td>.67 .67</td>
<td>0 0</td>
<td>0 .27</td>
</tr>
<tr>
<td>4 Put feelings in perspective</td>
<td>.71 .71</td>
<td>0 0</td>
<td>0 .28</td>
</tr>
<tr>
<td>10 Use relaxation techniques</td>
<td>.40 .40</td>
<td>0 0</td>
<td>0 .16</td>
</tr>
<tr>
<td>15 Engage in stress mgmt</td>
<td>.38 .38</td>
<td>0 0</td>
<td>0 .15</td>
</tr>
<tr>
<td>7 Engage in emotional activity</td>
<td>0 0</td>
<td>.29 .29</td>
<td>0 .15</td>
</tr>
<tr>
<td>9 Watch TV</td>
<td>0 0</td>
<td>.51 .51</td>
<td>0 .26</td>
</tr>
<tr>
<td>11 Eat something</td>
<td>0 0</td>
<td>.65 .65</td>
<td>0 .33</td>
</tr>
<tr>
<td>12 Drink caffeinated beverage</td>
<td>0 0</td>
<td>.48 .48</td>
<td>0 .24</td>
</tr>
<tr>
<td>13 Drink alcohol</td>
<td>0 0 .17</td>
<td>.29 .29</td>
<td>0 .14</td>
</tr>
<tr>
<td>1 Call, talk to or be with someone</td>
<td>0 .12</td>
<td>0 .16</td>
<td>.31 .31</td>
</tr>
<tr>
<td>5 Exercise</td>
<td>0 .17</td>
<td>0 .22</td>
<td>.43 .43</td>
</tr>
<tr>
<td>6 Listen to music</td>
<td>0 .27</td>
<td>0 .34</td>
<td>.68 .68</td>
</tr>
<tr>
<td>8 Engage in pleasant/fun activity</td>
<td>0 .12</td>
<td>0 .15</td>
<td>.31 .31</td>
</tr>
</tbody>
</table>

Note. P = pattern coefficient; S = structure coefficient. All pattern coefficients were significant at \( p < .001 \). \( N = 924 \)

A decision was made to remove drink alcohol from the model in an attempt to improve model fit. This item was responsible for model misfit in the congeneric analysis for Passive Mood Management, displayed the lowest standardised loading in the present model and contributed to lack of discriminant validity as identified by the structural coefficients. However, a CFA using ML estimation was conducted on this updated model and did not improve fit, \( \chi^2 = (75, N = 924) = 357.99, p < .001 \) (Bollen-Stine \( p < .01 \)), RMSEA = .06 (.06; .07.), CFI = .83 and SRMR = .06. All factor loadings were significant at \( p < .001 \) and standardised loadings ranged from a low of .29 for engage in emotional activity and have sex to a high of .71 for put feelings in perspective and eat something. A number of the standardised residuals were greater than 2, and one that was markedly higher, for the items use relaxation techniques and exercise (= 6.00).

In a further attempt to improve model fit, the item use relaxation techniques was removed. This item was chosen as it was involved in a number of oversized
standardised residual covariances and was the item that fit least well with other items comprising Active Mood Management. The CFA found the data were an adequate fit to this re-specified model, $\chi^2 = (63, N = 924) = 270.60, p < .001$ (Bollen-Stine $p < .01$), RMSEA = .06 (.05; .07), CFI = .86 and SRMR = .05. Low standardised loadings and elevated standardised residuals suggested the removal of two further items in an attempt to improve the fit of the overall model: *engage in an emotional activity* and *have sex*. In a final attempt to improve this model, the *have sex* item was removed, resulting in an even number of items per factor (Passive Mood Management minus *drink alcohol*; Active Mood Management minus *use relaxation techniques*; and Seeking Pleasure/Distraction minus *have sex*). The data were an adequate fit to this re-specified model, $\chi^2 = (52, N = 924) = 217.94, p < .001$ (Bollen-Stine $p < .01$), RMSEA = .06 (.05; .07), CFI = .88 and SRMR = .05. Factor loadings were significant at $p < .001$ and standardised loadings ranged from a low of .29 for *engage in emotional activity* to a high of .72 for *put feelings in perspective* and *engage in a pleasant or fun activity*. A number of the standardised residuals exceeded the magnitude of 2 however, and provided evidence for model misfit. Examination of the structural coefficients found Active Mood Management was a distinguishable construct but as in the previous solutions, Passive Mood Management and Seeking Pleasure/Distraction contained cross-loading items and did not demonstrate discriminant validity. This model is displayed in Figure 9.
Summary of latent structure investigation of the ARI and results for Hypothesis 1

The factor structure of the ARI was investigated using EFA and CFA methods, with ML estimation. The EFA supported previous findings (Pirzas, 2006) indicating the 15-item scale was optimally represented by three dimensions, however there was one item that loaded most strongly on an alternate scale. The CFA produced a number of alternate three-factor models, with either five or four items per factor. It is evident that the same item (item 13 *drink alcohol*) was removed in both the congeneric analysis for Passive Mood Management and in the multi-factor measurement model in order to find adequate fit, raising questions about the suitability of this item for representing the Passive Mood Management construct. The removal of ARI items that resulted in the 4-item solutions did not however markedly improve the overall fit of the multi-factor model, which continued to display elevated standardised residual covariances and an elevated chi-square. It was concluded that
these results provide support for Hypothesis 1, that exploratory and confirmatory factor analyses would support the three subscale surface structure of the ARI.

In light of this finding and in the interests of comprehensively sampling from the targeted content domains, it was decided that the original 5-item factor solution was preferred while not being supported by the CFA. This solution was however mostly supported by the EFA results, and the latent structure investigation of the scale in preliminary work (Pirzas, 2006). Taken together, these analyses on balance led to the decision to progress with the ARI in its original 15 item, three 5-item subscale version in subsequent analyses.

7.3.9 Results for Aim 2: Impact of specific strategies on affective outcomes, using correlations and multiple regression

Bivariate correlations were first examined to determine the relationship between the three ARI scales and level of PA and NA. The correlations between all variables in Study 2 are shown below in Table 15. These findings supported Hypothesis 2, as significant associations were revealed between the ARI strategy variables and affective outcomes. Consistent with Hypothesis 3, ARI Active Mood Management and Seeking Pleasure/Distraction were significantly related to greater PA. Consistent with Hypothesis 4, ARI Passive Mood Management was significantly related to greater NA.

To investigate whether the ARI strategy variables were significant predictors of affective outcomes over and above the other independent predictor variables (i.e., DERS affect regulation dispositions and API personality scales; Research Question 2), a series of standard multiple regressions were conducted. The three ARI scales, six DERS scales and five API scales were regressed onto the five affective outcome variables: (K10) Distress; (PANAS) PA and NA; (SWLS) SWL; (Ryff) PWB. These regressions are presented in Table 16 to Table 20 and were a focus for Research Aims 2, 3, 4 and 6.

In the investigation of Aim 2, the regression analyses tested whether ARI strategy variables were significant predictors of affective outcomes over and above the DERS and API predictor variables. The ARI scales made a significant unique contribution in the prediction of three out of five affective outcomes: Passive Mood Management was a significant predictor of increased NA (see Table 12); Seeking
Pleasure/Distraction and Active Mood Management were significant predictors of increased PA (see Table 13); and Active Mood Management was a significant positive predictor of SWL (see Table 14). The three ARI scales were not significant predictors in the regression models for Distress and PWB over and above the DERS and API variables.
Table 15: Pearson's Correlations Between Study Predictor and Outcome Variables

|       | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | 25  | 26  |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Nour  | -2.4| 2.0 | -0.9| 2.4 | -1.3| -2.3| -2.5| -3.2| -3.2| -3.5| -3.0| -2.6| -1.5| -0.3| -1.8| -1.2| -0.5| -0.5| -0.6| -0.6| -0.6| -0.6| -0.6| -0.6| -0.6|
| Pm    | -2.4| 2.0 | -0.9| 2.4 | -1.3| -2.3| -2.5| -3.2| -3.2| -3.5| -3.0| -2.6| -1.5| -0.3| -1.8| -1.2| -0.5| -0.5| -0.6| -0.6| -0.6| -0.6| -0.6| -0.6| -0.6|
| Mstar | -2.4| 2.0 | -0.9| 2.4 | -1.3| -2.3| -2.5| -3.2| -3.2| -3.5| -3.0| -2.6| -1.5| -0.3| -1.8| -1.2| -0.5| -0.5| -0.6| -0.6| -0.6| -0.6| -0.6| -0.6| -0.6|

*p < .05  **p < .01  ***p < .001  
N = 924
Summary of impact of ARI strategies on affective outcomes using correlations and regression and findings for Hypotheses 2, 3 and 4

The correlations between the three ARI scales and level of PA and NA indicated support for Hypotheses 2, 3, and 4. That is, Active Mood Management and Seeking Pleasure and Distraction were related to increased PA and Passive Mood Management was related to increased NA. In a regression analysis, it was of interest whether the ARI scales were significant predictors of the outcome variables over and above the DERS and API scales. The ARI scales were significant unique predictors of PA, NA and SWL, but not Distress and PWB.

7.3 10 Results for Aim 3: Developing a detailed model of the affect regulation process - Impact of the ARI and DERS variables on the five affective outcomes, using multiple regression

Generalised Psychological Distress (K10)

A standard multiple regression was conducted, with affect regulation strategy use (ARI), affect regulation dispositions (DERS) and personality scales (API) entered as predictor variables and Psychological Distress as the dependent variable. Results indicated the predictors explained 63% of the variance in Distress ($p < .001$). Of the 14 independent variables entered into the model, 6 made a significant unique contribution. The significant predictors were four DERS variables and two API variables. The strongest predictor was DERS Strategies, which captures the extent to which an individual believes they can access effective strategies to alter their mood as desired. Specifically, a greater sense of difficulty accessing effective strategies predicted increased Distress. This analysis did not support Hypothesis 5, as the DERS but not ARI predictors made a significant unique contribution to the regression model. Consistent with Hypothesis 6, greater levels of difficulty recorded on the DERS scales (specifically, DERS Strategies, Clarity, Acceptance and Goals) was related to higher Distress. There was no support for Hypothesis 7 as the ARI scales were not unique predictors of this affective outcome. Findings are summarised in Table 16.
Table 16: Coefficient Summary from Linear Regression Predicting K10 Psych Distress

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\beta$</th>
<th>$T$</th>
</tr>
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<tbody>
<tr>
<td>ARI Active Mood Mgmt</td>
<td>.04</td>
<td>1.65</td>
</tr>
<tr>
<td>ARI Passive Mood Mgmt</td>
<td>.01</td>
<td>.66</td>
</tr>
<tr>
<td>ARI Seeking Pleasure</td>
<td>-.01</td>
<td>-.43</td>
</tr>
<tr>
<td>DERS Acceptance</td>
<td>.10</td>
<td>3.44**</td>
</tr>
<tr>
<td>DERS Goals</td>
<td>.06</td>
<td>1.98*</td>
</tr>
<tr>
<td>DERS Impulse</td>
<td>.02</td>
<td>.62</td>
</tr>
<tr>
<td>DERS Awareness</td>
<td>-.03</td>
<td>-1.02</td>
</tr>
<tr>
<td>DERS Strategies</td>
<td>.32</td>
<td>7.48***</td>
</tr>
<tr>
<td>DERS Clarity</td>
<td>.13</td>
<td>4.63***</td>
</tr>
<tr>
<td>API N</td>
<td>.24</td>
<td>7.28***</td>
</tr>
<tr>
<td>API E</td>
<td>.00</td>
<td>.22</td>
</tr>
<tr>
<td>API O</td>
<td>.01</td>
<td>.32</td>
</tr>
<tr>
<td>API A</td>
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<td>-1.45</td>
</tr>
<tr>
<td>API C</td>
<td>-.10</td>
<td>-3.98***</td>
</tr>
</tbody>
</table>

$R^2 = .63$

*p < .05  **p < .01  ***p < .001

$N = 924$

Positive and Negative Affect Schedule (PANAS)

As summarised in Table 17, 51% of variance in NA was accounted for by the predictor variables ($p < .001$). Nine of the 14 predictors made a significant unique contribution to the model: one ARI variable; four DERS variables; and four API variables. The strongest predictor was unsurprising: level of N. A higher level of N predicted higher NA. Some support was found for Hypothesis 5, as the unique predictors of NA included variables from both the ARI and DERS scales. In line with Hypothesis 6, greater difficulty with DERS Acceptance, Clarity, Strategies and Impulse Control was related to higher NA. Consistent with Hypothesis 7, more frequent use of ARI Passive Mood Management was associated with higher NA.
Table 17: Coefficient Summary from Linear Regression Predicting NA

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\beta$</th>
<th>$T$</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARI Active Mood Mgmt</td>
<td>.02</td>
<td>.70</td>
</tr>
<tr>
<td>ARI Passive Mood Mgmt</td>
<td>.08</td>
<td>2.88**</td>
</tr>
<tr>
<td>ARI Seeking Pleasure</td>
<td>.02</td>
<td>.77</td>
</tr>
<tr>
<td>DERS Acceptance</td>
<td>.18</td>
<td>5.16***</td>
</tr>
<tr>
<td>DERS Goals</td>
<td>.04</td>
<td>1.12</td>
</tr>
<tr>
<td>DERS Impulse</td>
<td>.09</td>
<td>2.24*</td>
</tr>
<tr>
<td>DERS Awareness</td>
<td>-.05</td>
<td>-1.84</td>
</tr>
<tr>
<td>DERS Strategies</td>
<td>.13</td>
<td>2.70**</td>
</tr>
<tr>
<td>DERS Clarity</td>
<td>.13</td>
<td>3.97***</td>
</tr>
<tr>
<td>API N</td>
<td>.20</td>
<td>5.26***</td>
</tr>
<tr>
<td>API E</td>
<td>-.00</td>
<td>-.10</td>
</tr>
<tr>
<td>API O</td>
<td>.06</td>
<td>2.16*</td>
</tr>
<tr>
<td>API A</td>
<td>-.10</td>
<td>-3.61***</td>
</tr>
<tr>
<td>API C</td>
<td>-.06</td>
<td>-2.05*</td>
</tr>
</tbody>
</table>

$R^2 = .51$

As shown in Table 18, the predictor variables explained 39% of variance in PA ($p < .001$). There were eight unique independent variables and the strongest predictor was N. Higher N predicted lower PA. Consistent with Hypothesis 5, variables from both the ARI and DERS scales made a significant unique contribution to the prediction of PA. In line with Hypothesis 6, greater difficulty in terms of DERS Awareness was related to lower PA. Contrary to Hypothesis 6 however, greater difficulty with DERS Impulse was related to higher PA. Consistent with Hypothesis 7, more frequent use of ARI Active Mood Management and Seeking Pleasure/Distraction predicted higher PA.

Table 18: Coefficient Summary from Linear Regression Predicting PA

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\beta$</th>
<th>$T$</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARI Active Mood Mgmt</td>
<td>.11</td>
<td>3.37**</td>
</tr>
<tr>
<td>ARI Passive Mood Mgmt</td>
<td>-.01</td>
<td>-.39</td>
</tr>
<tr>
<td>ARI Seeking Pleasure</td>
<td>.14</td>
<td>4.71***</td>
</tr>
<tr>
<td>DERS Acceptance</td>
<td>.03</td>
<td>.84</td>
</tr>
<tr>
<td>DERS Goals</td>
<td>-.06</td>
<td>-1.76</td>
</tr>
<tr>
<td>DERS Impulse</td>
<td>.12</td>
<td>2.79**</td>
</tr>
<tr>
<td>DERS Awareness</td>
<td>-.12</td>
<td>-3.71***</td>
</tr>
<tr>
<td>DERS Strategies</td>
<td>-.05</td>
<td>-1.03</td>
</tr>
<tr>
<td>DERS Clarity</td>
<td>-.06</td>
<td>-1.54</td>
</tr>
<tr>
<td>API N</td>
<td>-.28</td>
<td>-6.52***</td>
</tr>
<tr>
<td>API E</td>
<td>.16</td>
<td>4.99***</td>
</tr>
<tr>
<td>API O</td>
<td>.02</td>
<td>.69</td>
</tr>
<tr>
<td>API A</td>
<td>-.08</td>
<td>-2.62**</td>
</tr>
<tr>
<td>API C</td>
<td>.19</td>
<td>6.11***</td>
</tr>
</tbody>
</table>

$R^2 = .39$

$N = 924$
Satisfaction with Life Scale (SWLS)

Table 19 shows that 45% of variance in SWL was captured by the independent variables \( (p < .001) \). There were 8 variables that made a significant unique contribution in this model: one ARI variable, three DERS variables and four API variables. The strongest unique predictor was N, with greater N associated with decreased SWL. In the prediction of SWL, support was found for Hypothesis 5, as variables from the ARI and DERS scales made a significant contribution to this regression model. Consistent with Hypothesis 6, greater difficulty in terms of DERS Strategies, Awareness and Clarity was related to lower SWL. Contrary to Hypothesis 6 however, higher levels of difficulty recorded for DERS Goals predicted higher SWL. In line with Hypothesis 7, greater use of ARI Active Mood Management was related to greater SWL.

**Table 19: Coefficient Summary from Linear Regression Predicting Satisfaction with Life**

<table>
<thead>
<tr>
<th>Variable</th>
<th>( \beta )</th>
<th>( T )</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARI Active Mood Mgmt</td>
<td>.09</td>
<td>3.09**</td>
</tr>
<tr>
<td>ARI Passive Mood Mgmt</td>
<td>.04</td>
<td>1.30</td>
</tr>
<tr>
<td>ARI Seeking Pleasure</td>
<td>.05</td>
<td>1.81</td>
</tr>
<tr>
<td>DERS Acceptance</td>
<td>.04</td>
<td>1.06</td>
</tr>
<tr>
<td>DERS Goals</td>
<td>.07</td>
<td>2.04*</td>
</tr>
<tr>
<td>DERS Impulse</td>
<td>.06</td>
<td>1.48</td>
</tr>
<tr>
<td>DERS Awareness</td>
<td>-.07</td>
<td>-2.14*</td>
</tr>
<tr>
<td>DERS Strategies</td>
<td>-.28</td>
<td>-5.39***</td>
</tr>
<tr>
<td>DERS Clarity</td>
<td>-.06</td>
<td>-1.76</td>
</tr>
<tr>
<td>API N</td>
<td>-.35</td>
<td>-8.50***</td>
</tr>
<tr>
<td>API E</td>
<td>.09</td>
<td>3.15**</td>
</tr>
<tr>
<td>API O</td>
<td>-.06</td>
<td>-2.09*</td>
</tr>
<tr>
<td>API A</td>
<td>.02</td>
<td>.70</td>
</tr>
<tr>
<td>API C</td>
<td>.10</td>
<td>3.34**</td>
</tr>
</tbody>
</table>

\[ R^2 = .45 \]

\*\( p < .05 \)  **\( p < .01 \)  ***\( p < .001 \)

\( N = 924 \)

Psychological Well-Being (PWB, Ryff)

As shown in Table 20, the predictor variables explained 66% of variance in PWB \( (p < .001) \). Eight of the 14 independent variables made a significant unique contribution: three DERS variables; and all five API variables. N was the strongest predictor. As expected, higher N predicted lower PWB. This analysis did not support Hypothesis 5, as the DERS but not ARI scales made a significant unique contribution to the prediction of PWB. In line with Hypothesis 6, higher levels of difficulty in
terms of DERS Strategies, Clarity and Awareness was related to lower PWB. There was no support for Hypothesis 7 as the ARI scales were not unique predictors of PWB.

Table 20: Coefficient Summary from Linear Regression Predicting Psychological Well-Being

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARI Active Mood Mgmt</td>
<td>.04</td>
<td>1.83</td>
</tr>
<tr>
<td>ARI Passive Mood Mgmt</td>
<td>-.01</td>
<td>-.55</td>
</tr>
<tr>
<td>ARI Seeking Pleasure</td>
<td>.02</td>
<td>.88</td>
</tr>
<tr>
<td>DERS Acceptance</td>
<td>.01</td>
<td>.35</td>
</tr>
<tr>
<td>DERS Goals</td>
<td>.04</td>
<td>1.44</td>
</tr>
<tr>
<td>DERS Impulse</td>
<td>.00</td>
<td>.12</td>
</tr>
<tr>
<td>DERS Awareness</td>
<td>-.09</td>
<td>-3.60***</td>
</tr>
<tr>
<td>DERS Strategies</td>
<td>-.23</td>
<td>-5.73***</td>
</tr>
<tr>
<td>DERS Clarity</td>
<td>-.11</td>
<td>-3.92***</td>
</tr>
<tr>
<td>API N</td>
<td>-.24</td>
<td>-7.58***</td>
</tr>
<tr>
<td>API E</td>
<td>.17</td>
<td>7.38***</td>
</tr>
<tr>
<td>API O</td>
<td>.12</td>
<td>5.29***</td>
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<tr>
<td>API A</td>
<td>.06</td>
<td>2.47***</td>
</tr>
<tr>
<td>API C</td>
<td>.21</td>
<td>9.21***</td>
</tr>
</tbody>
</table>

\( R^2 = .66 \)

*\( p < .05 \)  **\( p < .01 \)  ***\( p < .001 \)

N = 924

Summary of regressions and results for Hypotheses 5, 6 and 7

Five multiple regression models were tested to assess the predictive impact of ARI and DERS variables on affective outcomes. The API scales were included in these models for investigations to follow in 7.3.12. It was of interest whether variables from both the ARI and DERS scales would emerge as significant unique predictors of outcomes. These analyses identified that the API and DERS scales were the strongest predictors of outcomes, however the ARI scales made a significant unique contribution in the models for NA, PA and SWL. Overall, these findings indicated some support for Hypothesis 5, as both the DERS and ARI scales were significant predictors of outcomes. This was not the case however in the prediction of Distress and PWB, whereby the DERS but not ARI scales made a significant contribution. Support was found for Hypothesis 6 (i.e., direction of association between DERS variables and outcomes) in relation to all five outcome variables and there was one finding to the contrary: the nature of the association between DERS Goals and SWL. Finally, support was indicated for Hypothesis 7 (i.e., direction of association between ARI scales and outcomes) in relation to NA, PA and SWL.
The following SEM analyses further explore how the two aspects of the affect regulation process impact affective outcome variables, in conjunction with variables from the API. These analyses will enable the modeling of latent variables, and test more specifically the hypothesised model of affective outcome predictors.

7.3.11 Further results for Aim 3: Developing a detailed model of the affect regulation process - Impact of the ARI and DERS variables on the five affective outcomes, using SEM

A series of SEM analyses were used to further investigate relationships between the ARI strategy, DERS disposition and API personality variables in the prediction of the five affective outcomes: Distress, PA, NA, SWL and PWB. Five structural models were tested, including one for each dependent variable. As described in 7.2.8, Distress and PA were viewed as primary dependent variables and NA, SWL and PWB were deemed secondary dependent variables. All independent variables (i.e., ARI, DERS and API scales) were included in the structural models tested for the primary dependent variables, and the secondary variables were assessed in relation to the best fitting model identified for the primary languishing (Distress) or flourishing (PA) measure.

Primary Languishing Model: Generalised Psychological Distress

The structural model examined whether Distress, measured with the K10, was predicted by ARI strategies, DERS dispositions and API personality variables. The initial model is presented in Figure 10.
Figure 10: Initial Structural Model Predicting Level of Psychological Distress

Data were a poor fit to this initial model, $\chi^2 = (91, N = 924) = 5151.73, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .24 (.24; .25), CFI = .15 and SRMR = .31. Examination of the standardised residual covariance matrix highlighted a large number of oversized residuals which were possible causes of model misfit. In particular, as described in 7.2.8, the individual subscales of the DERS had high residuals. In a first attempt at improving model fit, a higher-order construct was included to represent these correlations between the lower-order DERS factors. A number of one-way arrows were added to this updated model, to represent hypothesised pathways among the latent variables. These included: API personality indicators predicted DERS Affect Regulation Dispositions and; DERS Affect Regulation Dispositions predicted ARI strategy use. Two-way covarying arrows between the five personality scales were also inserted in this model to account for their moderate association (not depicted below). This revised model is presented in Figure 11.
Figure 11: Re-Specified Model 1 Predicting Level of Psychological Distress

This model was an improvement on the previous but remained a poor fit, $\chi^2 = (72, N = 924) = 1134.99, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .13 (.12; .13.), CFI = .82 and SRMR = .09. An elevated Mardia’s coefficient (35.58) strongly suggested multivariate kurtosis in the data and two clearly outlying cases were identified according to Mahalanobis d-squared. These were systematically removed, resulting in only a marginal reduction in Mardia’s kurtosis value (32.77) and no improvement in model fit, $\chi^2 = (72, N = 922) = 1142.32, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .13 (.12; .13.), CFI = .82 and SRMR = .09. Mahalanobis d-squared values did not identify any further outlying cases, suggesting that outliers were not the cause of model misfit.

Adjustments were next made to this model in an attempt to improve overall fit. The strategy is outlined in 7.2.8. A first step was to remove non-significant predictors of the dependent variable. These were the personality scales: E, O and A, and the strategy scales: Passive Mood Management and Seeking Pleasure/Distraction. Next, one of the lower-order scales (Emotional Awareness) was removed from the higher-
order construct, Affect Regulation Dispositions, as it showed a markedly lower loading on this construct when compared to the other five scales, as well as low scale intercorrelations. These results suggested this subscale was a poor fit with the Affect Regulation Dispositions construct and could be a contributor to overall model misfit. A one-way path was also inserted from C to Active Mood Management. In addition to being an interpretable addition, this change was suggested by the elevated standardised residual covariance between these two variables (3.69) indicating their association was not currently accounted for, and a large modification index (15.20). This re-specified model is presented in Figure 12.

![Figure 12: Final Model Predicting Level of Psychological Distress](image)

Results indicated this re-specified model was a marked improvement on the previous, $\chi^2 = (22, N = 922) = 143.59, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .08 (.07; .09), CFI = .97 and SRMR = .03. Although still highly significant, the value for chi-square was reduced, and the practical fit indices were within approved ranges. This model accounted for 71.6% of variance in Distress.

All structural paths in this model were significant at $p < .001$, excluding the path from Active Mood Management to Distress, which was $p < .05$. $N (\beta = .21)$ and
C (β = -.10) significantly predicted Distress. Affect Regulation Dispositions was a strong significant predictor of Distress (β = .62). Use of the Active Mood Management strategies also significantly predicted level of Distress (β = .07). Further, results indicated that N (β = .80) and C (β = -.13) significantly predicted Affect Regulation Dispositions, and C predicted use of Active Mood Management (β = .23). Affect Regulation Dispositions was a significant predictor of Active Mood Management (β = -.21). The factor loadings for the five DERS subscales on the higher-order construct were significant at p < .001. These standardised loadings were moderate to high: Emotional Clarity (β = .70); Emotional Acceptance (β = .79); Access to Strategies (β = .98); Impact on Goals (β = .74) and; Impulse Control (β = .85). The five scales captured 75.5% of the variance in this higher-order construct. Finally, the model included a moderate negative correlation between N and C (r = -.43, p < .001).

A small number of standardised residual covariances exceeded the recommended cut-off of 2 (Cunningham, 2008). These were identified for: Active Mood Management and Emotional Acceptance (= 3.04) and Emotional Clarity (= -2.7); C and Impact on Goals (= -2.43) and Emotional Clarity (= -3.39). The modification indices were in line with the standardised residuals in suggesting these associations were not accounted for in the present model and could be contributing to overall model misfit. It was not possible to add these direct paths as suggested however, as the DERS subscales were being captured by the higher-order Affect Regulation Dispositions construct in this model. Overall, this final model for predicting Distress indicates some support for Hypothesis 8, in showing that Affect Regulation Dispositions had a significant impact on Active Mood Management, and Active Mood Management significantly predicted the affective outcome: Distress.

The related Research Question (3) investigated which of the ARI strategy or DERS disposition variables were most strongly associated with affective outcomes. According to this final model for Distress, there were a greater number of significant predictor variables from the DERS.

Close inspection of the parameter estimates highlighted a possible problem with this model however. The direct pathway from Active Mood Management to Distress was in the opposite direction to predictions and also the raw correlation
between these variables (see Table 15). Specifically, results from this structural model identified a positive, albeit small, standardised loading from use of Active Mood Management strategies to level of Distress ($\beta = .07$). This finding was in contrast to the expectation that use of these Active strategies would predict decreased Distress, which was supported by their negative raw correlation ($r = -.17, p < .001$).

According to Tabachnick and Fidell (2001), this finding suggests statistical suppression. These authors discuss difficulties associated with identifying the suppressor variable when there are more than two or three independent variables as here. However, they propose a systematic approach for uncovering the suppressor variable. This approach was followed in the present study and involved the following steps. The independent predictors were removed from the model one at a time, and the impact of this removal on the direction of the path coefficient from Active Mood Management to Distress noted. The higher-order Affect Regulation Dispositions construct was removed first, followed by the individual DERS subscale lower-order factors. N was next eliminated from the model and at this point, the direction of the path of interest was reversed. That is, the regression coefficient of Active Mood Management to Distress was negative ($\beta = -.07$) but also non-significant ($p > .05$).

To clarify whether N was the cause of the suppression effect in this model, as suggested by the above result, the independent predictors (excluding N) were re-instated one at a time, in the same order in which they were removed. It was anticipated that the path from Active Mood Management to Distress would remain negatively-valenced provided N was excluded from this model. This was not the case, however. When the DERS lower-order factor ‘Strategies’ was re-instated, Active Mood Management was a significant, and positive, predictor of Distress ($\beta = .07, p < .05$). This finding suggested the Strategies subscale could be involved in the suppression effect evident in this model, and that rather than there being a single targeted suppressor variable, the model contained a suppression situation.

A decision was made to discontinue working with the structural model for Distress (see Appendix B for further analysis of the suppression effect). The identified suppression situation raised questions about the validity of the findings to be extracted from this model and created problems of interpretation. In response, the hypothesis (6) driving the particular investigation was revisited and an alternate
analytical approach was devised. Specifically, the independent predictors that remained in this model for distress were tested systematically in separate structural models. This approach was required as the simultaneous investigation of these variables had resulted in misleading findings and problems of interpretation. In line with Aim 3, the series of models sought to explore the interrelationships between affect regulation strategies, affect regulation dispositions, and personality in predicting Distress. Four structural models were tested for this DV, which investigated all elements of the initial full model, but in a piecemeal manner. The models tested the relationships between the independent predictors of interest, and their impact on the affective outcome dependent variable, exploring: (1) What is the impact of Active Mood Management strategies on Distress?; (2) How are the personality factors N and C related to Active Mood Management strategies?; (3) How are Affect Regulation Dispositions related to Active Mood Management strategies?; (4) How are N and C related to Affect Regulation Dispositions?

The four structural models that were subsequently investigated using SEM are displayed below in Figure 13, Figure 14, Figure 15 and Figure 16. It was found that all structural paths tested were significant at $p < .001$. Active Mood Management was a negative predictor of Distress. This simplified model accounted for 4.9% of variation in Distress. Level of N was a negative predictor and C was a positive predictor of Active Mood Management. These personality factors accounted for 13.4% of variance in Active Mood Management. Higher scores on each of the DERS subscales, represented in the higher-order Affect Regulation Dispositions construct, negatively predicted use of Active Mood Management, $\chi^2 = (9, N = 922) = 74.80, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .09 (.07; .11), CFI = .97 and SRMR = .04. This higher-order construct captured 9.9% of variance in Active Mood Management. The fourth model showed N was a positive predictor and C was a negative predictor of difficulties represented in Affect Regulation Dispositions, $\chi^2 = (13, N = 922) = 90.26, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .08 (.06; .09), CFI = .98 and SRMR = .03. These personality factors accounted for 75.4% of variance in this construct.

In conclusion, the findings drawn from these separate models are less sophisticated and illuminating than if the relationships between variables were tested in a full structural equation model. However, the results illustrate some mechanisms
through which affect regulation phenomena influenced Distress. Contrary to multiple regression results reported in 7.3.10, it was found that use of Active Mood Management predicted decreased Distress. Low N and high C predicted increased Active Mood Management. Lower levels of difficulty in relation to Affect Regulation Dispositions also predicted increased use of Active Mood Management. Finally, high N and low C predicted greater difficulties in Affect Regulation Dispositions.

It was not possible to test Hypothesis 8 (That affect regulation dispositions would influence affect regulation strategy use and that affective outcomes were shaped by this set of variables) in relation to this DV because of the suppression effect leading to analysis via separate models. In one of these models however, an association between the DERS dispositions and ARI strategies was identified.

Figure 13: Structural Model Predicting Level of Psychological Distress

Figure 14: Structural Model Predicting Use of Active Mood Management (N and C)
Secondary Languishing Model: Negative Affect (NA)

A structural model tested whether level of NA, measured with the PANAS, was predicted by ARI strategies, DERS dispositions and API personality variables. As outlined in 7.2.8, the final, best fitting model identified for the primary languishing dependent variable (Psychological Distress) was the starting point for investigating the prediction of NA. As a suppression effect caused a problem with interpretation of the full structural model for Distress, it was of interest whether this effect would be replicated in a full model for NA. This model is displayed in Figure 17.
The data were an adequate overall fit to the model, $\chi^2 = (22, N = 922) = 149.96, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .08 (.07; .09), CFI = .97 and SRMR = .03. Although the chi-square statistic was significant, the practical fit indices were within approved ranges. This model accounted for 56.6% of variance in NA.

The structural paths in this model were significant at $p < .001$, with the exception of N to NA ($p < .01$) and C to NA ($p < .05$). However, suppression was evident in this model also, as the path from Active Mood Management to NA was significant and positive ($\beta = .11$). This finding suggested that use of separate structural models was appropriate for the prediction of NA, as a suppression effect present in the full model created problems of interpretation. This was a replication of the finding for Distress.

There was only one separate model required for the prediction of NA. The models for investigating remaining structural paths of interest as presented in the full model (N and C to Active Mood Management; Affect Regulation Dispositions to Active Mood Management; N and C to Affect Regulation Dispositions) have been tested and reported above. The simplified model for NA is displayed in Figure 18. It was found that Active Mood Management was a negative predictor of NA. The model accounted for 2.1% of the variance in this DV.
In summary, secondary analyses of the prediction of languishing (NA as DV) led to replication of a suppression effect that was evident in the full structural model for the primary languishing DV, Distress. This impeded the testing of Hypothesis 8, directed toward examining the combination of DERS disposition, ARI strategy and API personality variables in the prediction of outcomes. In the separate structural model however, it was found that higher scores on Active Mood Management were related to lower NA. This finding differs from the regression results in 7.3.10, which highlighted ARI Passive Mood Management as a significant unique predictor of NA.

**Primary Flourishing Model: Positive Affect (PA)**

A structural model examined the prediction of PA, measured on the PANAS, with ARI strategies, DERS dispositions and API personality scales as the independent variables of interest. Additional hypothesised pathways among the latent variables were: API scales predicted DERS affect regulation dispositions and API and DERS dispositions predicted ARI strategies. Analyses conducted for the Distress model suggested that the DERS scales were best represented by a higher-order construct, in order to capture the moderate associations between the six scales. This Affect Regulation Dispositions construct was included in the present model also. Two-way covarying arrows between the five API scales were also inserted in this model to account for their moderate association (not depicted below). The initial model is displayed in Figure 19.
The results indicated the data were a poor fit to this initial model, $\chi^2 = (58, N = 924) = 891.35, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .12 (.12; .13), CFI = .85 and SRMR = .08. An elevated Mardia’s coefficient (30.54) suggested the presence of multivariate kurtosis in the data and Mahalanobis d-squared identified two outlying cases. These were systematically removed which marginally reduced Mardia’s kurtosis value (=28.23) but did not improve the overall model fit, $\chi^2 = (58, N = 922) = 888.93, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .12 (.12; .13), CFI = .85 and SRMR = .08. Mahalanobis d-squared values did not identify any further outlying cases to be removed from the data set, suggesting outliers were not the cause of model misfit.

In a first attempt at improving model fit, non-significant predictors of the DV were systematically removed: O; Passive Mood Management; and the higher-order construct, Affect Regulation Dispositions. Fit of this re-specified model was poorer, $\chi^2 = (53, N = 922) = 3960.66, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .28 (.27; .29), CFI = .23 and SRMR = .30. Examination of the standardised residual covariance matrix highlighted a large number of high residuals possibly contributing...
to poor fit. These pertained to lack of representation of interrelationships between the DERS subscales, and these subscales with the four remaining API personality scales. However, of the six DERS scales included in the model, only Emotional Awareness and Impulse Control were significant predictors of PA. The model was re-specified by removing the four non-significant DERS subscales, as depicted in Figure 20.

![Figure 20: Re-Specified Model 2 for Predicting Level of Positive Affect](image)

The data were a poor fit to this re-specified model also, $\chi^2 = (15, N = 922) = 881.91, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .25 (.24; .26), CFI = .57 and SRMR = .17. With the exception of Impulse Control, all paths to PA were significant ($p < .001$, excluding Extraversion to PA which was $p < .01$). Impulse Control was removed next, resulting in some improvement in fit, $\chi^2 = (8, N = 922) = 286.35, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .19 (.17; .21), CFI = .80 and SRMR = .11. The following non-significant paths were removed: N and E to Active Mood Management and; N, A and C to Seeking Pleasure/Distraction. This re-specified model is displayed in Figure 21.
Figure 21: Re-Specified Model 4 for Predicting Level of Positive Affect

The data remained a poor fit to this model, $\chi^2 = (13, N = 922) = 294.69, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .15 (.14; .17), CFI = .80 and SRMR = .12. Standardised residuals suggested some additional direct paths were needed to improve the model: E, A and C to Awareness; and Awareness to Active Mood Management and Seeking Pleasure/Distraction. These structural paths were theoretically interpretable and when added to the model resulted in an improvement in fit, $\chi^2 = (8, N = 922) = 59.88, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .08 (.06, .10), CFI = .96 and SRMR = .03. This model is displayed in Figure 22.
Figure 22: Re-Specified Model 5 for Predicting Level of Positive Affect

The model of Figure 22 accounted for 47.9% of variance in PA. All structural paths, including to the DV, were significant. There was one direct path in this model that suggested a problem: negative or net suppression. Contrary to the raw correlation between variables ($r = .20, p < .001$), the direct effect of A on PA in the model was negative ($\beta = -.15, p < .001$). To address this suppression effect, A was removed from the model. This resulted in a marginal deterioration in overall model fit, $\chi^2 = (7, N = 922) = 60.24, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .09 (.07; .11), CFI = .95 and SRMR = .04, with an elevated and still significant chi-square and Bollen-Stine statistic. Examination of standardised residuals and modification indices suggested that one relationship was not adequately represented, possibly contributing to the poor overall fit - the association between Active Mood Management and Seeking Pleasure/Distraction. A large modification index supported a one-way path from Seeking Pleasure/Distraction to Active Mood Management, suggesting use of the strategies belonging to the former category predicted use of the Active Mood Management strategies. As this was an interpretable addition to the model, this was included in the next model re-specification. In this model, the path from Active Mood Management to PA had become non-significant, indicating this variable could be removed. This was the next adjustment made to improve the model, as displayed in Figure 23.
Figure 23: Final Model for Predicting Level of Positive Affect

The data were an excellent fit to the model of Figure 23, $\chi^2 = (4, N = 922) = 8.50, p > .05$ (Bollen-Stine $p > .05$), RMSEA = .03 (.00; .07), CFI = .99 and SRMR = .01. The fit was further supported by a low Mardia’s kurtosis value (= 2.80) and all standardised residuals were less than 2.5. All paths were significant at $p < .001$, with the exception of $E$ to $PA$ which was $p < .05$. In order of importance as determined by standardised regression coefficient sizes, this model found $PA$ was predicted by: low $N$ ($\beta = -.29$); use of the Seeking Pleasure/Distraction strategies ($\beta = .26$); high $C$ ($\beta = .22$); high Emotional Awareness ($\beta = -.15$); and high $E$ ($\beta = .10$). Additional structural paths suggested a high level of Emotional Awareness was predicted by high $E$ ($\beta = -.20$) and high $C$ ($\beta = -.20$), and greater use of the Seeking Pleasure/Distraction strategies was predicted by high $E$ ($\beta = .36$) and high Emotional Awareness ($\beta = -.16$). This model captured 46.5% of the total variance in level of Positive Affect.

In conclusion, SEM analyses of the prediction of PA suggested that variables from each of the ARI strategy, DERS disposition and API personality scales impacted this affective outcome. This finding was anticipated based on multiple regression analyses reported in 7.3.10. Some support was revealed for Hypothesis 8, as it was identified that in the prediction of this affective outcome (PA), an affect regulation disposition variable (DERS awareness) was significantly associated with a strategy variable (ARI Seeking Pleasure/Distraction). In keeping with the strategy for DVs
described in 7.2.8, it was next of interest whether this final model for PA was generalisable to other measures of flourishing.

*Secondary Flourishing Model: Satisfaction with Life (SWL)*

A structural model examined the relationships between ARI strategy, DERS disposition and API personality variables in the prediction of Satisfaction with Life, measured using the SWLS. The re-specified PA model 5 (see Figure 22) was the starting point for investigating the prediction of SWL. As a suppression effect was identified in this PA model, it was of interest whether the same complication would be evident when examining an alternate flourishing DV. If so, the final best-fitting PA model would be followed for testing this DV also. The first model for SWL is depicted in Figure 24.

![Image of Figure 24: Initial Structural Model for Predicting Level of Satisfaction with Life](image)

Data were an adequate fit to the model of Figure 24, $\chi^2 = (8, N = 922) = 59.88$, $p < .001$ (Bollen-Stine $p < .001$), RMSEA = .08 (.06; .10), CFI = .96 and SRMR = .03. Mardia’s coefficient was slightly elevated, however there were no outlying cases to be removed on the grounds of Mahalanobis d-squared. The model was first re-specified by removing the following non-significant predictors: E; A; and Emotional Awareness.
Awareness. As shown in Figure 25, the data were a poor fit to this model, $\chi^2 = (5, N = 922) = 101.16, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .14 (.12; .17), CFI = .88 and SRMR = .10.

Figure 25: Re-Specified Model 1 for Predicting Level of Satisfaction with Life

All structural paths of the model of Figure 25 were significant at $p < .001$ (excluding C to SWL, which was $p < .01$) and 50.1% of total variance in the DV was accounted for. A number of the standardised residuals and modification indices were oversized however, highlighting possible causes of model misfit. These suggested the following theoretically meaningful direct paths be added to the model: N and C to Seeking Pleasure/Distraction; and N to Active Mood Management. There was no change in overall model fit when these paths were included, $\chi^2 = (2, N = 922) = 61.34, p < .001$ (Bollen-Stine $p < .001$), RMSEA = .18 (.14; .22), CFI = .92 and SRMR = .06. In this model, C no longer significantly predicted Satisfaction with Life and this path was removed in the next re-specification. In addition, the standardised residuals and modification indices strongly supported a link between Active Mood Management and Seeking Pleasure/Distraction. As was the case for the PA model, the largest modification index suggested a path from Seeking Pleasure/Distraction to Active Mood Management. This was included in the subsequent model re-specification (see Figure 26).
The data was an excellent fit to this model of Figure 26, $\chi^2 = (2, N = 922) = 2.64, p > .05$ (Bollen-Stine $p > .05$), RMSEA = .02 (.00; .07), CFI = 1.0 and SRMR = .01. All direct paths were significant at a minimum of $p < .05$. The model suggested that a higher level of Satisfaction with Life was associated with (in order of importance as per standardised regression coefficient size): low N ($\beta = -.57$); use of Active Mood Management strategies ($\beta = .13$); high C ($\beta = .12$); and use of Seeking Pleasure/Distraction strategies ($\beta = .11$). Additional paths in the model indicated greater use of Active Mood Management strategies was associated with high C ($\beta = .23$) and low N ($\beta = -.10$). More frequent use of Seeking Pleasure/Distraction strategies was associated with low N ($\beta = -.22$). The path from Seeking Pleasure/Distraction to Active Mood Management was positive and significant ($\beta = .44, p < .001$) suggesting that use of pleasurable, distracting strategies was associated with use of the strategies oriented toward problem-solving and active engagement with a targeted emotional experience. This model captured 51.6% of the variance in SWL.

The final model for SWL, a secondary flourishing measure in this study, differed to the structural model for PA. Suppression was not evident in the initial model as was identified for PA and as a result, the final model for these flourishing DVs included a different combination of predictor variables. In the model for SWL, it
was the ARI strategy and API personality variables that impacted this outcome. This finding is in contrast to the regression analysis for this DV, in which the DERS awareness variable was a significant predictor. The model did not support Hypothesis 8, as there was no association revealed between DERS disposition and ARI strategy variables in the prediction of SWL. Following the strategy outlined in 7.2.8, it was next of interest whether the model for PA generalised to another measure of flourishing, Psychological Well-Being.

Secondary Flourishing Model: Psychological Well-Being (PWB)

A structural model assessed whether level of psychological well-being (PWB), measured with Ryff, was predicted by ARI strategies, DERS dispositions and API personality variables. The PA model 5 (see Figure 22), in which suppression was identified, was the starting point for examining the prediction of PWB. It was of interest whether the same suppression effect would occur in the model for this alternate flourishing DV. This initial model for PWB is displayed in Figure 27.

![Figure 27: Initial Structural Model for Predicting Level of Psychological Well-Being](image)

The data were an adequate fit to the model of Figure 27, \( \chi^2 = (8, N = 922) = 59.88, p < .001 \) (Bollen-Stine \( p < .001 \)), RMSEA = .08 (.06; .10), CFI = .97 and SRMR = .03. Only one non-significant path was evident - Seeking
Pleasure/Distraction was not a significant predictor of PWB. The model was re-specified with this variable removed, leading to improved fit, $\chi^2 = (3, N = 922) = 10.24, p < .05$ (Bollen-Stine $p < .05$), RMSEA = .05 (.02; .09), CFI = 1.0 and SRMR = .01. A slightly elevated standardised residual (-1.4) and modification index (4.00) suggested an additional interpretable direct path would improve fit: N to Active Mood Management. When added to the next model re-specification, this resulted in further improvement in fit, $\chi^2 = (2, N = 922) = 3.88, p > .05$ (Bollen-Stine $p > .05$), RMSEA = .03 (.00; .08), CFI = 1.0 and SRMR = .01. One non-significant path was evident in this model, namely, Agreeableness to Active Mood Management. This path was removed in the next re-specification, displayed in Figure 28.

![Figure 28: Final Model for Predicting Level of Psychological Well-Being](image)

The data were an excellent fit to the model of Figure 28, $\chi^2 = (3, N = 922) = 6.61, p > .05$ (Bollen-Stine $p > .05$), RMSEA = .04 (.00; .07), CFI = 1.0 and SRMR = .01. All structural paths were significant at a minimum level of $p < .05$. The correlations between API scales ranged from $r = .34$ to $r = -.48$ ($p < .001$). The model indicates that higher PWB was predicted by (in order of coefficient size): low N ($\beta = -.46$); high C ($\beta = .27$); high E ($\beta = .18$); high Emotional Awareness ($\beta = -.15$); high A ($\beta = .09$); and greater use of Active Mood Management ($\beta = .08$). This model also
indicates that higher Emotional Awareness was associated with the traits: high A ($\beta = -.20$); high E ($\beta = -.15$); and high C ($\beta = -.14$). Greater use of Active Mood Management was associated with: high Emotional Awareness ($\beta = -.49$); low N ($\beta = -.15$); and high C ($\beta = .13$). This model captured 77.3% of variance in level of PWB.

In contrast to the SEM findings for the primary flourishing variable (PA), a suppression effect was not evident in the analysis for PWB. The final model for this dependent variable showed that scales from each of the API, ARI and DERS significantly impacted the affective outcome. Additional significant paths in the model found some support for Hypothesis 8, as it was found that in the context of predicting PWB, an affect regulation disposition variable (DERS Awareness) was associated with a strategy variable (ARI Active Mood Management). These results for PWB contrast with the multiple regression findings reported in 7.3.10, where the ARI scales were not unique predictors of this dependent variable.

Summary of SEM findings and results for Hypothesis 8

The SEM analyses were directed toward further investigation of the individual and combined impact of ARI strategies, DERS dispositions and API personality variables on the five affective outcome indicators related to either languishing or flourishing. Analyses were conducted with a primary languishing (Psychological Distress) and a secondary languishing (NA) variable, and a primary flourishing (PA) and two secondary flourishing (SWL, PWB) variables. The results were similar for the two languishing outcomes, in which a suppression effect led to subsequent investigation via separate models. For these DVs, it was not possible to test Hypothesis 8 which required examination of the association between DERS and ARI scales in the prediction of affective outcomes. The results were different however for each of the flourishing outcomes. A suppression effect in the PA model was not replicated in the prediction of SWL or PWB, leading to contrasting final structural models for each of these outcome variables. Some support was revealed for Hypothesis 8 in relation to PA and PWB, whereby greater DERS awareness was associated with increased Active Mood Management.
7.3.12 Results for Aim 5: Value of the affect regulation construct in relation to personality – Impact of ARI strategy variables and DERS disposition variables on affective outcomes when API personality variables were statistically controlled, using multiple regression

The focus in this study Aim was whether the ARI and DERS variables were unique significant predictors of affective outcomes over and above API personality scales. The multiple regression findings reported for Aim 3 (7.3.10) were used for this examination. Results showed that variables from the ARI and DERS scales made a significant contribution in the prediction of each of the five affective outcome indicators over and above API personality.

Specifically, DERS Strategies, Clarity, Acceptance and Goals made a unique impact in the prediction of Distress (see Table 16). In the model for NA (see Table 17), ARI Passive Mood Management and DERS Acceptance, Clarity, Strategies and Impulse Control were unique significant predictors. ARI Seeking Pleasure/Distraction and Active Mood Management and DERS Awareness and Impulse Control were significant predictors of PA (see Table 18) and ARI Active Mood Management and DERS Strategies, Awareness and Goals made a unique contribution in the prediction of SWL (see Table 19). In the model for PWB, DERS Strategies, Clarity and Awareness were significant predictors over and above personality (see Table 20). These findings indicate support for the relevance of variables representing affect regulation in the prediction of outcomes, beyond the powerful influence of personality factors.

7.3.13 Results for Aim 6: Is the relationship between affect regulation strategy use and affective outcomes moderated by level of Neuroticism or Gender? - Using interactions in multiple regression

This study Aim investigated whether the relationship between ARI strategies and affective outcomes was moderated by two variables, N and Gender.

7.3.13.1 Neuroticism as moderator

It was expected that N would moderate the relationship between ARI strategies and the outcome variables. It was hypothesised that ARI Active Mood Management, Seeking Pleasure/Distraction and Passive Mood Management would be
more highly predictive of the outcome variable when level of N was low (Hypothesis 9).

A series of two-stage hierarchical regressions were conducted on the data, with the centered ARI strategy scale and centered N entered first, and an interaction term computed by the product of these two variables entered second. These models were investigated in relation to the prediction of the five outcome variables: Distress; NA; PA; SWL; and PWB. A small number of significant interaction effects were identified.

**Active Mood Management and Neuroticism**

The Active Mood Management x N interaction term did not make a significant contribution in the prediction of any of the five outcome variables. There was no support for Hypothesis 9, that N moderated the relationship between Active Mood Management and affective outcomes.

**Passive Mood Management and Neuroticism**

The interaction term created with Passive Mood Management and N added significant unique variance in the prediction of Distress. These findings are summarised in Table 21. It was found that N was the strongest predictor of Distress at Stage 1 and 2. Use of Passive Mood Management made a significant contribution in the prediction of Distress however, over and above N at both Stage 1 and 2. The interaction between these variables was also a unique significant contributor, however the change in $R^2$ was small (.005). This interaction is depicted in Figure 29 and provides some evidence to suggest that N interacted with Passive Mood Management in the prediction of Distress. For participants rated medium to high in N, greater Passive Mood Management was related to higher Distress. In contrast, there appeared to be no difference in level of Distress according to Passive Mood Management for those low in N. These results are the opposite of what was expected in Hypothesis 9.
The interaction term created with Seeking Pleasure/Distraction and N added significant unique variance in the prediction of PA. The findings are displayed in Table 21. N was the strongest predictor of PA at Stage 1 and 2. Seeking Pleasure/Distraction made a significant contribution in the prediction of PA, over and above N, at both Stage 1 and 2. The interaction between these variables was also a unique significant contributor; the change in $R^2$ was small (.007). This interaction is depicted in Figure 30 and provides evidence that N interacted with Seeking Pleasure/Distraction in the prediction of PA. Specifically, at all levels of N, endorsement on the Seeking Pleasure/Distraction scale was associated with higher PA. Contrary to Hypothesis 9, this effect was slightly more pronounced however for participants who were high in N.

Figure 29: Interaction Between Level of Passive Strategy Use and Neuroticism in the Prediction of Psychological Distress

**Seeking Pleasure/Distraction and Neuroticism**

The interaction term created with Seeking Pleasure/Distraction and N added significant unique variance in the prediction of PA. The findings are displayed in Table 21. N was the strongest predictor of PA at Stage 1 and 2. Seeking Pleasure/Distraction made a significant contribution in the prediction of PA, over and above N, at both Stage 1 and 2. The interaction between these variables was also a unique significant contributor; the change in $R^2$ was small (.007). This interaction is depicted in Figure 30 and provides evidence that N interacted with Seeking Pleasure/Distraction in the prediction of PA. Specifically, at all levels of N, endorsement on the Seeking Pleasure/Distraction scale was associated with higher PA. Contrary to Hypothesis 9, this effect was slightly more pronounced however for participants who were high in N.
Table 21: Summary of Hierarchical Regression Analyses with N as Moderator

<table>
<thead>
<tr>
<th>DV: Distress</th>
<th>Stage 1</th>
<th>Stage 2</th>
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<tbody>
<tr>
<td></td>
<td>Standardised regression coefficient</td>
<td>Standardised regression coefficient</td>
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<tr>
<td>Passive mood management</td>
<td>.08**</td>
<td>.08**</td>
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<tr>
<td>Neuroticism</td>
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<td>.67***</td>
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<tr>
<td>Passive mood management</td>
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<td>.07**</td>
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<tr>
<td>Neuroticism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction term</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2 = .49^{***}$</td>
<td>$R^2$ change = .005**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$R^2 = .49^{***}$</td>
<td></td>
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</table>

DV: PA

<table>
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<tbody>
<tr>
<td></td>
<td>Standardised regression coefficient</td>
<td>Standardised regression coefficient</td>
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<tr>
<td>Seeking Pleasure/Distraction</td>
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<td>.24***</td>
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<tr>
<td>Neuroticism</td>
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<tr>
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<tr>
<td>Interaction term</td>
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<tr>
<td>$R^2 = .26^{***}$</td>
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</tr>
<tr>
<td></td>
<td>$R^2 = .27^{***}$</td>
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</tbody>
</table>

*p < .05  **p < .01  ***p < .001
N = 924
7.3.13.2 Gender as moderator

It was expected that Gender would moderate the association between ARI strategies and affective outcomes (Hypothesis 10). This was investigated in two-stage hierarchical regressions, with the centered ARI strategy scale and Gender entered first, and an interaction term computed by the product of these two variables entered second. These models were then tested for predicting the five outcomes: Distress; NA; PA; SWL; and PWB.

Active Mood Management and Gender

The interaction term created with Active Mood Management and Gender added significant unique variance in the prediction of 3 of the 5 outcome variables: Distress; PA; and PWB.

Psychological Distress

As anticipated (Hypothesis 10), evidence was found to suggest Gender moderated the association between Active Mood Management and Distress. This finding is summarised in Table 22. At Stage 1, Active Mood Management was a significant predictor of Distress; greater use of these strategies was associated with lower levels of Distress. Gender was not a significant predictor of Distress at this stage. At Stage 2, Active Mood Management was no longer a significant predictor but Gender was a significant predictor of Distress. The strongest predictor of Distress at this stage however was the interaction between Active Mood Management and Gender. This interaction effect (see Figure 31) suggests that while for females, greater use of Active Mood Management was associated with lower Distress, level of Distress for males did not vary according to scores on Active Mood Management.
Some support was found for the hypothesis that Gender moderated the association between Active Mood Management and level of PA (Hypothesis 10). This finding is summarised in Table 22. Greater use of Active Mood Management was a significant predictor of higher PA at Stage 1. Gender was also a significant predictor at this stage. At Stage 2, Active Mood Management and Gender remained significant predictors of PA. The interaction between these variables also made a significant unique contribution to the model, however the change in $R^2$ was small (.004). This result is depicted in Figure 32 and suggests that the higher PA associated with greater Active Mood Management was slightly more pronounced for females.
Results indicated that as anticipated (Hypothesis 10), Gender moderated the impact of Active Mood Management on level of PWB. This finding is displayed in Table 22. At Stage 1, both Active Mood Management and Gender were significant predictors of PWB. When the interaction term was entered into the model at Stage 2, they remained significant predictors but their interaction made the strongest contribution. The change in $R^2$ was again small however (.007). This interaction is shown in Figure 33, and suggests that while there was an increase in level of PWB with higher scores on Active Mood Management for both groups, this effect was more pronounced for females: endorsement of these strategies was associated with a marked increase in level of PWB.

![Figure 33: Interaction Between Level of Active Strategy Use and Gender in the Prediction of Psychological Well-Being](image)

#### Passive Mood Management and Gender

There was no evidence of an interaction between Passive Mood Management and Gender in the prediction of the outcome variables.

#### Seeking Pleasure/Distraction and Gender

The interaction term created with Seeking Pleasure/Distraction and Gender added significant unique variance in predicting three of the five outcome variables: Generalised Distress; SWL; and PWB.
Psychological Distress

There was evidence to support the hypothesis that Gender moderated the association between Seeking Pleasure/Distraction and Distress (Hypothesis 10). This finding is outlined in Table 22. Results showed that Seeking Pleasure/Distraction and Gender were significant predictors of Distress at Stage 1. Only Gender remained a significant predictor at Stage 2. The interaction between these variables was the strongest predictor of Distress at this stage, however the change in $R^2$ was small (.005). This interaction is represented in Figure 34, which clearly displays that the impact of Seeking Pleasure/Distraction on level of Distress was different for males and females in this sample. For males, who also reported a higher level of Distress (see Appendix F), employing the Seeking Pleasure/Distraction strategies was associated with a slight increase in Distress. For females, use of these strategies was associated with a marked decrease in Distress scores.

Satisfaction with Life (SWL)

Evidence was found to support the hypothesis that Gender moderated the association between Seeking Pleasure/Distraction and SWL (Hypothesis 10). These results can be seen in Table 22. Seeking Pleasure/Distraction and Gender were significant predictors of SWL at Stage 1. They remained as significant predictors at Stage 2, and their interaction term also made a significant unique contribution to the model. This interaction (see Figure 35) suggests that while higher scores on Seeking
Pleasure/Distraction were associated with higher SWL for both groups, the effect was slightly more pronounced for females, who demonstrated a larger rise in level of SWL from moderate to high use of the strategies.

Figure 35: Interaction Between Seeking Pleasure/Distraction and Gender in the Prediction of Satisfaction with Life

*Psychological Well-Being (PWB)*

Results provided some support for the hypothesis that Gender moderated the impact of Seeking Pleasure/Distraction on level of PWB (Hypothesis 10). Findings are summarised in Table 22. Seeking Pleasure/Distraction was the strongest predictor of PWB at Stage 1. Gender also made a significant unique contribution. These variables were significant predictors of PWB at Stage 2, as was their interaction. This interaction, depicted in Figure 36, highlights that for both groups, higher scores on Seeking Pleasure/Distraction were associated with higher PWB. Again, this effect was slightly larger for females.
Figure 36: Interaction Between Seeking Pleasure/Distraction and Gender in the Prediction of Psychological Well-Being

### Table 22: Summary of Hierarchical Regression Analyses with Gender as Moderator

<table>
<thead>
<tr>
<th>DV: Distress</th>
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<th>Stage 2</th>
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### DV: PA

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### DV: PWB

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A series of hierarchical regressions were conducted to investigate whether level of N and Gender moderated the association between ARI strategies and the five affective outcome variables. These regressions tested Hypothesis 9 (that ARI Active Mood Management, Seeking Pleasure/Distraction and Passive Mood Management would be more highly predictive of the outcome variable when level of N was low)
and 10 (that Gender would moderate the association between ARI strategies and affective outcomes). Overall, results did not support Hypothesis 9. There was evidence that ARI strategies and level of N interacted in the prediction of Distress (Passive Mood Management x N) and PA (Seeking Pleasure/Distraction x N), however contrary to expectations, this effect was more pronounced for participants who scored high on N. Support was found for Hypothesis 10, as the interaction between ARI Active Mood Management x Gender had a significant impact on the prediction of Distress, PA and PWB. Further, the interaction between ARI Seeking Pleasure/Distraction x Gender significantly predicted level of Distress, SWL and PWB.

7.3.14 Results for Aim 7: Do ARI strategy variables and DERS disposition variables differentially impact positive and negative affective outcomes? – Using multiple regression

The multiple regression models conducted for the positive or flourishing outcomes (PA, SWL and PWB) and negative or languishing outcomes (Distress and NA) reported in 7.3.10 were consulted for this study Aim. There were no new analyses undertaken for this investigation. The focus here was whether a different set of significant predictors from the ARI and DERS scales emerged in the models for the positive versus negative affective outcomes.

Regression models for flourishing outcomes

In the prediction of PA, ARI Active Mood Management and Seeking Pleasure/Distraction made a significant unique contribution to the model (see Table 18). The DERS Impulse Control and Awareness scales were also significant predictors. In the model for SWL, ARI Active Mood Management and DERS Goals, Awareness and Strategies were unique significant predictors (see Table 19). In the prediction of PWB, it was the DERS Awareness, Strategies and Clarity scales that had a significant impact (see Table 20).

Regression models for languishing outcomes

In the prediction of Psychological Distress, the DERS Acceptance, Goals, Strategies and Clarity scales were significant unique contributors to the model (see
Table 16). In the regression model for NA, ARI Passive Mood Management and DERS Acceptance, Impulse Control, Strategies and Clarity made a unique significant contribution (see Table 17).

**Summary of results for Aim 7**

There were some differences in the significant ARI and DERS predictors revealed for positive versus negative outcomes. Specifically, the ARI scales Active Mood Management and Seeking Pleasure/Distraction and the DERS scale Awareness were significant predictors in the positive but not negative outcomes. Further, the ARI scale Passive Mood Management and DERS scale Acceptance were significant predictors of the negative but not positive outcomes.

### 7.3.15 Results for Aim 8: Gender differences in responses to ARI strategy variables and DERS disposition variables – Using ANOVA

This study Aim assessed whether there were Gender differences in responses to the ARI and DERS scales. It was hypothesised that women would report higher scores on ARI Passive Mood Management and men would report higher scores on ARI Seeking Pleasure/Distraction (Hypothesis 11).

**Table 23: Scale Means and Standard Deviations According to Gender**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Scale</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>ARI</td>
<td>Active Mood Management</td>
<td>16.67***</td>
<td>3.31</td>
</tr>
<tr>
<td></td>
<td>Passive Mood Management</td>
<td>14.66***</td>
<td>3.25</td>
</tr>
<tr>
<td></td>
<td>Seeking Pleasure &amp; Distraction</td>
<td>15.73</td>
<td>3.01</td>
</tr>
<tr>
<td>DERS</td>
<td>Acceptance</td>
<td>13.48</td>
<td>5.78</td>
</tr>
<tr>
<td></td>
<td>Goals</td>
<td>14.81</td>
<td>4.72</td>
</tr>
<tr>
<td></td>
<td>Impulse Control</td>
<td>12.49</td>
<td>5.33</td>
</tr>
<tr>
<td></td>
<td>Awareness</td>
<td>14.37</td>
<td>4.57</td>
</tr>
<tr>
<td></td>
<td>Strategies</td>
<td>17.40</td>
<td>7.33</td>
</tr>
<tr>
<td></td>
<td>Clarity</td>
<td>10.78</td>
<td>3.71</td>
</tr>
<tr>
<td></td>
<td>DERS Total</td>
<td>83.32</td>
<td>23.98</td>
</tr>
</tbody>
</table>

*p < .05  **p < .01  ***p < .001  
N = 924
One-way between-groups analyses of variance (ANOVA) was employed to investigate the impact of Gender on responses to the ARI and DERS scales.

**Gender differences in responses on the ARI**

The ANOVA found that women in this sample were significantly more likely to report use of Active Mood Management $F(1, 922) = 19.45, p < .001, \eta^2 = .02$. As hypothesised (Hypothesis 11), it was also found that women were significantly more likely to report use of the strategies comprising Passive Mood Management, $F(1, 922) = 30.87, p < .001, \eta^2 = .03$. Contrary to expectations (Hypothesis 11), the ANOVA identified no significant Gender differences in use of the strategies comprising Seeking Pleasure/Distraction, $F(1, 922) = .50, p > .05$.

**Gender differences in responses to the DERS**

There were no significant differences between men and women in overall level of DERS Total Score, $F(1, 922) = 2.21, p > .05$. The individual subscale that showed a significant Gender difference was DERS Awareness: men reported greater difficulties in relation to this affect regulation disposition, $F(1, 922) = 27.93, p < .001, \eta^2 = .03$. 
7.4 Discussion of Study 2 findings

7.4.1 Overview of aims and findings

Study 2 investigated specific components of the affect regulation process. The investigation was driven by the research aims, questions and hypotheses described in 7.1. In broad terms, the study conducted a comprehensive analysis of affect regulation by conceptually separating two aspects of the process (affect regulation dispositions and affect regulation strategies) and examining their individual and combined impact on affective outcomes. A focus was to test for strongest predictors of these outcomes, and in particular, to compare the predictive power of affect regulation dispositions and strategies while jointly considering personality.

The study also examined gender differences in affect regulation, testing the tenets of Response Styles Theory (RST; Nolen-Hoeksema, 1987, 1991, 2000) in particular. Following the Study 1 investigation of the ARI (Pirzas, 2006), the current study further evaluated the psychometric properties of this scale, related especially to internal consistency reliability and latent structure.

Analyses supported some of the study hypotheses, and highlighted challenges associated with testing others. In particular, the anticipated three-factor structure of the ARI was retrieved by EFA. Confirmatory factor analyses found this solution was a poor overall statistical fit however, and it was concluded that two of the subscales would be better represented by four rather than five items. Adequate internal reliability was found for the subscales and it was recommended that the ARI was worthy of further investigation in other samples.

Findings from Regressions and SEM analyses were consistent with the well-established predictive power of personality, in relation to both flourishing and languishing affective outcomes. Affect regulation dispositions measured on the DERS exerted significant unique effects in the prediction of outcomes, and in some cases, were stronger predictors than personality traits. One particular scale, representing perceived control over affect (DERS Strategies), was most highly associated with the outcomes, and had effects of a comparable magnitude to N.

A key finding was that specific strategies used for modifying affect contributed additional variance in the prediction of affective outcomes, over and above that explained by the more enduring affect regulation dispositions and
personality characteristics. In particular, Active Mood Management and Seeking Pleasure/Distraction were strong positive predictors of Positive affect, Satisfaction with Life and Psychological Well-Being. In a simplified model testing the prediction of Distress, greater use of Active Mood Management strategies was associated with reduced Distress.

The study identified that a different set of ARI and DERS predictor variables was important in the context of flourishing versus languishing. The gender analyses highlighted minimal gender differences in the affect regulation dispositions, measured on the DERS, but found that females were more likely to endorse affect regulation strategies represented in two of the three ARI subscales: Active Mood Management and Passive Mood Management.

7.4.2 Descriptive findings from Study 2

In this sample, participants endorsed use of the affect regulation strategies represented in the three ARI subscales at comparable levels to the preliminary data (Pirzas, 2006). The usage levels across the three scales were similar, however the sample mean score was slightly higher for Active Mood Management and Seeking Pleasure/Distraction than for Passive Mood Management.

The level of overall difficulties represented in the affect regulation dispositions (DERS Total score) was moderate. That is, the average total score on this scale was comparable to normative data reported in other undergraduate and community-based samples (Salters-Pedneault et al., 2006; Tull, Schulzinger, Schmidt, Zvolensky, & Lejeuz, 2007; Whiteside et al., 2007) and was less than that reported by participants who met criteria for: analogue Generalised Anxiety Disorder (GAD) status (Salters-Pedneault et al.); binge-eating behaviour (Whiteside et al.), and trauma-exposure (Tull et al., 2007). Highest scores were reported on the Access to Strategies scale, suggesting that participants experienced greatest difficulties accessing effective regulation strategies, and lowest scores were obtained for problems with Emotional Clarity.

Levels of N, E and O were marginally elevated in comparison to published norms (Murray et al., 2009). In contrast, levels of A and C were slightly below that identified in the large-scale Australian normative sample.
Mean responses on the K-10 were substantially higher than both the Australian normative data published in 2001 (Andrews & Slade), and the average found in the more recent 2007 Australian Bureau of Statistics National Survey of Mental Health and Well-Being (NSMHWB, Slade, Grove, & Burgess, 2011). According to the cut-off scores developed by the Clinical Research Unit for Anxiety and Depression (CRUFAD), the average score in the present sample is indicative of a medium level of generalised psychological distress, and individuals scoring in this range are encouraged to activate self-help techniques provided through CRUFAD (Information Paper: Use of the Kessler Psychological Distress Scale in ABS Health Surveys, Australia, 2001, see ABS website www.abs.gov.au). Interpretation of the present findings must therefore be qualified by the relatively high level of Distress. This observation in the present sample may be a reflection of the higher proportion of females \((n = 600)\) compared to males \((n = 324)\). In particular, Slade et al. reported that K-10 scores tended to be higher among females. Interestingly however, the average score identified for NA experienced over the past week was very similar to the published norms for this well-established mood scale (see Watson et al., 1988), highlighting the distinctiveness of these two outcome measures for the present study.

The overall level of PWB reported by this sample was somewhat lower than a previously identified mean (Hersbach, 2006). Average scores for level of PA and SWL were however comparable to the published normative data (Watson et al., 1988; Diener et al., 1985, respectively).

7.4.3 Aim 1: Psychometric investigation of the ARI

*Exploratory factor analysis*

The analysis tested whether this new 15-item self-report measure of affect regulation strategy use was represented by three broad dimensions as identified previously (Pirzas, 2006). Findings indicated overall support for Hypothesis 1, the three-factor solution, which included: Active Mood Management; Passive Mood Management and Seeking Pleasure/Distraction. These labels were replicated from the 2006 preliminary work, however there was a slight change in the pattern of loading items. Specifically, one item (ARI14: *have sex*) loaded contrary to expectations on Passive Mood Management rather than on Seeking Pleasure/Distraction. Examination of the other items included in this factor suggests that the present study participants
conceived of this particular strategy as a passive activity, that is not directed toward the affective state itself but which may serve to regulate this by providing short-term indulgence and self-gratification in a similar manner as the consumption of substances like coffee, alcohol and food. This is a possible explanation for why the item loaded with the other “Passive” strategies. Aside from item 14 causing a minor change in the structure of two of the factors, there was one factor that was clearly retrieved from the analysis and replicated the previous 2006 work: Active Mood Management.

The three-factor solution accounted for a smaller portion of the overall item variance (27.8%) when compared to the previous analysis (40.7%). This is likely due to the difference in study methodology, with the present analysis extracting factors based on shared variance (i.e., Maximum Likelihood Extraction) and the latter making use of all possible variance for extraction (i.e., Principal Components Analysis). In summary, the findings indicated support for Hypothesis 1 and suggested that the latent structure of the new instrument was fairly robust in this second independent sample, but that the placement of one item in particular is not confirmed.

**Confirmatory factor analysis**

A series of single-factor congeneric analyses were conducted to assess the fit of the three subscales separately. Findings suggested the Active Mood Management subscale was optimally represented by four rather than five items, with the removal of item 10 (use relaxation techniques). Passive Mood Management subscale was also found to be best represented by four rather than five items, with item 13 (drink alcohol) removed. In contrast, Seeking Pleasure/Distraction subscale was an adequate fit with all five items included. These results contrasted slightly with those obtained via EFA, which largely supported the three-dimensional five-item per scale structure. A similarity between the two factor analyses however was a problematic cross-loading item in the EFA (item 14: have sex), which also displayed a low loading on the Seeking Pleasure/Distraction scale in the CFA. The optimal location of this particular affect regulation strategy warrants further exploration.

When the three ARI subscales were investigated simultaneously in a multi-factor measurement model, results were in support of a four rather than five-item structure for each scale. The overall model fit was inadequate however and included unacceptable levels of error variance. An additional analysis was conducted, to test
whether the fit of the scale was improved with the addition of a higher-order “Total Affect Regulation Strategy Use” construct, that accounted for possible association between the three subscales. In a practical sense, this analysis asked whether the responses from the fifteen items could be meaningfully summed to retrieve a participant’s total strategy usage score. The results did not support this use of the scale, but rather confirmed the important distinctiveness of the three dimensions.

The difficulties associated with finding adequate statistical fit in CFA models has been discussed previously (e.g., Cooper, Smillie, & Corr, 2010; Gignac, Bates & Jang, 2007), including in relation to well-established scales such as the NEO-PI-R (Borkenau & Ostendorf, 1990; Gignac, 2009; McCrae, Zonderman, Costa, Bond, & Paunonen, 1996; Vassend & Skrondal, 1997). It is possible that the present study’s large sample size and lack of multivariate normality were implicated in the poor fitting models for the ARI, particularly in relation to the highly significant chi-square (Barrett, 2007; Cunningham, 2008; Kline, 2005; Marsh, Balla, & McDonald, 1988.). Taken together, EFA and CFA analyses provide some support for the three-dimensional latent structure of this developing scale, and indicate suggestions for improved fit including the removal of one or two particular items from each subscale. Further investigation of the latent structure of this scale in independent samples is warranted. The three-subscale, five-item version of the ARI was utilised for the remaining substantive analyses comprising Study 2, suggested by Pirzas (2006) and the EFA of Study 2.

7.4.4 Aim 2: Impact of affect regulation strategies on affective outcomes

Bivariate correlations were examined in the interests of Hypothesis 2 (that the ARI subscales would be significantly associated with the PANAS), Hypothesis 3 (that the ARI subscales Active Mood Management and Seeking Pleasure/Distraction would be significantly related to greater PA and Hypothesis 4 (that the ARI subscale Passive Mood Management would be significantly related to greater NA). These correlations were consistent with expectations and supported the hypotheses. Specifically, as found by Pirzas (2006), in the current Study 1, and in a similar way by Augustine and Hemenover (2009), higher scores on Active Mood Management and Seeking Pleasure/Distraction were associated with higher PA. Also reported by Pirzas and in Study 1, higher Passive Mood Management was related to higher NA in the present
sample. The replication of these associations between the ARI subscales and PANAS offers clear evidence concerning the manner in which particular regulation strategies can impact affective outcomes.

Multiple regression examined Research Question 2: Are the ARI strategy variables significant predictors of affective outcomes over and above the other independent predictors, representing affect regulation dispositions (DERS) and personality (API)? This analysis had two goals: to identify the components of affect regulation phenomena that are most relevant to affective outcomes; and to explore the assertion that particular strategies are not as critical to outcomes as other affect regulation predictors such as the DERS variables (Gratz & Roemer).

The results provided equivocal findings in regards to the above argument by Gratz and Roemer (2004). Specifically, findings showed that personality is a dominant predictor of affective outcomes and the inclusion of this in a regression model can mask the effect of other predictor variables under consideration. In some of the models however, the affect regulation dispositions contributed to outcomes over and above personality. The key focus in this Research Question was the predictive power of the affect regulation strategies and in a select few regression models, unique effects were identified for ARI strategy variables. In particular, as reported in 7.3.9 and 7.3.10, the ARI scales were significant unique predictors of PA, NA and SWL but not Distress and PWB. These findings show that specific strategies were relevant in the prediction of three of five affective outcomes, over and above other powerful predictors, contrary to the suggestion of Gratz and Roemer (2004). These regression analyses are discussed in greater detail in 7.4.5.

7.4.5 Aim 3: Developing a detailed model of the affect regulation process: Impact of the ARI and DERS variables on the five affective outcomes, using multiple regression

This aspect of the study was first investigated using multiple regression. A series of standard regression models tested the relative impact of the two separable features of affect regulation on affective outcomes. It was of interest whether particular strategies (ARI) or broader affect regulation dispositions (DERS) were more highly predictive of affective outcomes, and what was the impact of simultaneously considering personality traits (API) in these models. It was
hypothesised that the two aspects of the affect regulation process (i.e., ARI and DERS variables) would be significant predictors of affective outcomes (Hypothesis 5). In particular, it was anticipated that greater difficulties recorded on DERS disposition variables would be related to higher languishing (Distress, NA) and lower flourishing (PA, SWL and PWB) (Hypothesis 6). It was also hypothesised that more frequent use of ARI Active Mood Management and Seeking Pleasure/Distraction and less frequent use of Passive Mood Management would be associated with higher flourishing and lower languishing (Hypothesis 7). The findings are discussed below, separated for each of the five outcome variables.

7.4.5.1 Prediction of languishing

Psychological Distress

When the affect regulation and personality predictor variables were regressed onto Distress, a substantial portion of the variance (63%) was explained (see Table 16). There were six significant unique predictors of Distress, which are discussed in turn in this section. The strongest predictor was DERS Strategies, a variable that captures perceived control over affect, or the extent to which the individual believes they can access effective regulation strategies when desired. Consistent with Hypothesis 6, lower perceived control predicted greater Distress. This finding accords with evidence that perceived control over affect, also referred to as negative mood regulation expectancies, is a powerful predictor of well-being and illness outcomes (e.g., Catanzaro & Mearns, 1990, 1999; Catanzaro et al., 2000; Hemenover et al., 2008; Kassel, Bornovalova & Mehta, 2006; Mearns, Patchett, & Catanzaro, 2009). It has in fact been argued that these expectancies are more highly predictive of the outcomes than the specific regulation strategies one eventually employs (Catanzaro et al., 2000; Drwal, 2008; Kirsch, Mearns, & Catanzaro, 1990). This conclusion was also supported in the present study, as contrary to Hypothesis 5, the specific strategy variables were not unique predictors of Distress over and above affect regulation dispositions and personality. These results suggest that level of Distress is not so much determined by the particular strategies an individual adopts in order to regulate unpleasant affect, but rather the extent to which the individual perceives that they will be able to resolve that affect as desired.
Unsurprisingly, N was the second strongest predictor of Distress. The powerful influence of this trait on affective well-being is well-established in the literature (Costa & McCrae, 1980; 1992; DeNeve & Cooper, 1998; Gonzalez Gutierraz et al., 2005; Hayes & Joseph, 2003; McCrae & Costa, 1991; Vitterso, 2001; Watson & Clark, 1992) and this finding was replicated in the current study. The third strongest unique predictor of Distress was DERS Emotional Clarity. In support of Hypothesis 6, greater difficulties with finding clarity and understanding concerning the particular emotions that are experienced predicted greater Distress. Comparable findings have been identified by emotional intelligence researchers (Mayer & Salovey, 1995; Salovey et al., 1995). Additionally, it has been found that lack of emotional clarity predicts a range of poor mental health outcomes, including: increased worry and analogue Generalised Anxiety Disorder status (Salters-Pedneault et al., 2006); increased incidence of binge eating behaviour (Whiteside et al., 2007), deliberate self-harming behaviours (Gratz & Roemer, 2008), and recent history of uncued panic attacks (Tull & Roemer, 2007). Conversely, higher emotional clarity has been revealed to play an important role in facilitating the effective regulation of affect by aiding with regulation strategy choice (Barrett et al., 2001; Lischetzke et al., 2005; Rivers et al., 2007) and has been found in laboratory-based studies to facilitate rebounding from induced negative mood (Salovey, Stroud, Woolery, & Epel, 2002).

In an earlier study, Saarni (1999) argued that the ability to accurately identify and understand the specific emotions one is experiencing is the fundamental ingredient of competent emotional functioning. The present results are consistent with this literature highlighting the adaptiveness of this affect regulation disposition.

Level of C was the second unique personality predictor of Distress (see Table 16). The regression showed that greater C predicted lower Distress. In contrast to the widely acknowledged predictive power of N (Costa & McCrae, 1992; DeNeve & Cooper, 1998; Gonzalez Gutierraz et al., 2005; Vitterso, 2001, Watson & Clark, 1992), this is a relatively novel finding concerning personality and wellness, proposing that it is not solely the “traits of emotionality” N and E (Watson & Clark) that are relevant when examining personality and health outcomes, as was put forward in an early publication by Costa and McCrae (1980). The relevance of C for well-being and stress experience and vulnerability has indeed emerged in more recent literature (see for e.g., Chamorro-Premuzic, Bennett & Furnham, 2007; DeNeve &
Cooper, 1998; Furnham & Cheng, 1997; Hayes & Joseph, 2003; Joshanloo & Rastegar, 2007; McCrae & Costa, 1991) and researchers have interpreted this in a range of ways.

DeNeve and Cooper (1998) propose that individuals high on C likely experience greater well-being because of their goal-striving nature: their tendency to be focused on and work hard toward goals and achievements. Likewise, McCrae and Costa (1991) suggested that C contributes to higher well-being by virtue of being associated with more positive experiences in achievement situations. Numerous other authors have similarly proposed this dimension of personality is linked with mental health and well-being because of the associated qualities of will for achievement, striving, self-discipline, dutifulness, deliberation and commitment to work (Furnham & Cheng, 1997; Hayes & Joseph, 2003; Vollrath & Torgersen, 2000).

Other factors have been attributed to the association between this personality trait and affective outcomes. For example, Vollrath, Torgersen and Alnaes (1995) and Carver and Connor-Smith (2010) proposed that C is linked to greater well-being because of coping style tendencies. These researchers found this trait is related to greater use of adaptive active and problem-focused strategies and lesser use of detrimental passive coping. Relatedly, Chamorro-Premuzic et al. (2007) attributed the greater happiness associated with C to level of emotional intelligence. It was found that individuals high on this dimension of personality exhibited greater aptitude for identifying and regulating their own and others’ emotions and so experience the associated positive emotional repercussions. The current study results support this literature concerning the well-being benefit of a tendency toward C, and the nature of this relationship was also explored using SEM and is discussed in the subsequent 7.4.6. In these subsequent analyses, the association between C and tendencies concerning affect regulation dispositions and strategy use was explored in the context of predicting the five affective outcomes.

Level of DERS Emotional Acceptance was the next strongest predictor of Distress. In line with Hypothesis 6, greater acceptance of one’s emotional experience predicted lower Distress. This finding is unsurprising; indeed the powerful impact of emotional acceptance is a central tenet of the Mindfulness and Acceptance and Commitment Therapy literatures (Blackledge & Hayes, 2001; Eifert et al., 2009; Forsyth & Eifert, 2007; Hayes, Luoma, Bond, Masuda, & Lillis, 2006), and the
benefits of acceptance rather than avoidance for psychological health have been discussed by numerous authors (Low, Stanton & Bower, 2008; Mennin et al., 2009; Roemer et al., 2009; Tull & Gratz, 2008; Tull & Roemer, 2007; Salters et al., 2006; Twohig, Hayes & Masuda, 2006; Twohig, Plumb, Mukherjee, & Hayes, 2010). Moreover, emotional acceptance and the sense of being open to feelings of both a pleasant and unpleasant nature is discussed in the emotional intelligence literature (Salovey, Mayer, Caruso, & Yoo, 2009).

The importance of emotional acceptance for psychological outcomes was questioned by Aldao et al. (2010). These authors found only very small effect sizes between this and psychopathology in their large meta-analytic study. A similar result was identified by another group of researchers, who found contrary to expectations, that suppression was more effective than acceptance for down-regulating experimentally-induced affect (Dunn, Billotti, Murphy, & Dalgleish, 2009). In spite of these equivocal findings however, greater emotional acceptance was related to lower levels of distress in the current sample.

Finally, consistent with Hypothesis 6, greater difficulties continuing with goal-directed activities in the face of strong emotions (DERS Goals) was a unique predictor of higher Distress. Engagement in goal-directed behaviour in spite of distress is a component of some conceptualisations of emotion regulation (e.g., Gratz & Roemer, 2004), and has previously been recognised and identified as an important aspect of the effective regulation of emotion (Linehan, 1993; Melnick & Hinshaw, 2000). The present study found evidence to support this previous work, as this variable captured unique variance in predicting scores on Distress.

In summary, using multiple regression, the current study identified that lower scores on Distress were predicted by greater perceived control over affect, lower N and higher C, greater emotional clarity and acceptance, and perceived ability to engage in goal-directed behaviour when upset. As anticipated, personality was a strong predictor of Distress, however the DERS affect regulation dispositions exerted a greater influence in the regression model, with more significant unique predictors extracted from this scale. Contrary to expectations however (Hypothesis 5), the other component of the affect regulation model proposed in this project, the deliberate behaviours and strategies, were not uniquely relevant in the prediction of Distress. This finding displays that the more powerful influences on level of Distress from an
affect regulation perspective, were tendencies concerning perceptions and appraisals of one’s affective experience. This result is consistent with Gratz and Roemer (2004), who said that particular regulation strategies employed by the individual are not as relevant to outcomes as variables represented in their DERS.

**Negative Affect**

As outlined in 5.2, NA was selected as the secondary measure of languishing for this study. When the affect regulation and personality predictor variables were regressed onto NA, 51% of the variance was explained (see Table 17). Excluding one variable (DERS Goals), all significant predictors of Distress were also unique significant predictors of NA. This result validates the findings from these regression models, and suggests that predictors discussed above (perceived control over affect; N, emotional clarity, C and emotional acceptance) have broad relevance when considering how affect regulation phenomena contribute to negative outcomes for the individual.

Four additional variables captured unique variance in NA that were not also significant predictors of Distress. In order of size, these were: A; Passive Mood Management; DERS Impulse; and O. These divergent findings for the two measures of languishing is interpretable in light of the different item content of the K-10 and PANAS, and the time sequence that is specified. The K-10 asks respondents to report on their internal experiences in the past four weeks, whereas the PANAS is based on mood and well-being in the past week. In the present study, these measures were selected to capture different facets of languishing and to tap into a comprehensive model of affective outcomes. The differences in results retrieved for the measures supports that this goal was met and highlights that different aspects of the affect regulation process had particular relevance for level of psychological distress experienced in the past month versus negative mood in the past week.

As stated, the personality trait A was a significant unique predictor of NA: lower A was related to greater NA. The notion that A has positive implications for mood and well-being has been previously noted (Chamorro-Premuzic et al., 2007; DeNeve & Cooper, 1998; McCrae & Costa, 1991; Watson & Clark, 1992) so this study found evidence converging with this literature. In addition, results from a large meta-analytic study suggested that A was negatively associated with symptoms of
clinical disorders (Malouff, Thorsteinsson, and Schutte, 2005) and Bienvenu et al.
(2004) reported associations between this trait and anxiety disorders in particular.
Agreeableness has also been examined experimentally from an affect regulation
perspective, where it was suggested that a tendency toward A is related to greater
efforts at regulation of negative affect (Haas, Omura, Constable, & Canli, 2007).
Tobin, Graziano, Vanman, & Tassinary (2000) similarly found that while individuals
high on A reported experiencing intense emotions, they also reported greater efforts at
regulating these experiences. As with C, Costa and McCrae (1991) put forward an
instrumental view of the relation between A and affect, whereby an individual’s
bearing on this trait leads to particular life experiences that have particular emotional
consequences, for example, the strong and rewarding interpersonal bonds that
characterise this trait.

In contrast to the prediction of Distress but in line with Hypothesis 5, one of
the ARI variables was a significant predictor of NA: Passive Mood Management.
This difference in finding for the two languishing outcomes may be explained in
terms of the timing associated with the measures. It is possible that the impact of
particular affect regulation strategies is evident on a questionnaire asking about recent
affect (PANAS) rather than internal states experienced in the past month (K-10).
Further, the nature of the result, that greater use of Passive Mood Management
strategies predicted greater NA, is in line with expectations (Hypothesis 7) and
previous work that has established passivity to be ineffective for regulating unpleasant
affect (Finset et al., 2002; Langens & Mose, 2006; McCrae & Costa, 1986; Nolen-
Hoeksema, 1991; Nolen-Hoeksema & Rusting, 1999; Rivers et al., 2007; Thayer et
al., 1994).

Inability to control impulsive behaviour when upset (DERS Impulse) was also
a significant predictor of NA, associated with more unpleasant affect as predicted by
Hypothesis 6. This variable has not received a great deal of attention in the affect
regulation literature, but is included in some conceptualisations in this field (e.g.,
Gratz & Roemer, 2004). The current finding concurs with previous work linking
impulse control difficulties with poorer affective outcomes and psychopathology,
including deliberate self-harm (Gratz & Roemer), higher psychological distress
(Ruganci & Gencoz, 2010), substance abuse (Fox et al., 2007) and chronic worry and
analogue Generalised Anxiety Disorder status (Salters-Pedneault et al., 2006).
Furthermore, the importance of developing control over one’s impulses, through heightened emotional awareness, is discussed as one of the key goals of Emotion-Focused Therapy (Greenberg, 2004).

The personality trait, O, was a significant unique predictor of NA. There was a slight effect for individuals showing a tendency toward this trait to experience higher NA. This result is interpretable in light of the nature of this personality dimension, thought to encompass receptivity toward a wide array of phenomena and experiences, including emotional experiences of both a positive and negative flavour (Costa & McCrae, 1992; Costa, McCrae, & Dye, 1991). As with much of the work concerning this largely unclarified trait (McCrae & Sutin, 2009) however, findings regarding O and subjective well-being do not appear consistent in the literature. For example, Watson and Clark (1992) reported an opposite association to the present study: O was significantly negatively correlated with NA. DeNeve and Cooper (1998) found that O obtained the lowest correlation of the five factors with each subjective well-being index in their meta-analytic study. More specifically, the personality dimension correlated equally with PA and SWL, but was only marginally related to NA. In a more recent meta-analysis, Steel, Schmidt, & Shultz (2008) found that O was related to happiness, PA and quality of life measures, but was unrelated to SWL, NA and overall affect. Other research has revealed associations between high O and psychopathology, including depression (Chioqueta & Stiles, 2005; Bienvenu et al., 2004) and Obsessive Compulsive Disorder (Bienvenu et al.). The present study’s findings are more in line with these latter studies, whereby a tendency toward this trait predicted elevated NA.

In summary, findings from these regression models identified that lower NA was predicted by: greater perceived control over affect (DERS Strategies); lower N; greater emotional clarity (DERS Clarity); higher C; greater emotional acceptance (DERS Acceptance); higher A; less engagement in Passive Mood Management strategies; greater impulse control (DERS Impulse); and lower levels of O. These results support Hypothesis 5, as the two examined aspects of the affect regulation process (DERS and ARI variables) were unique predictors of this affective outcome and provide some support for Hypotheses 6 and 7 as outlined above. While there was evidence in favour of Gratz and Roemer’s (2004) assertion that variables such as those represented in the DERS are most relevant in determining outcomes, the ARI
affect regulation strategies were also shown to predict NA. Drawing on the regression findings for the two languishing outcomes, Distress and NA, it is suggested thus far that the DERS affect regulation dispositions are the dominant predictor variables in the model proposed in this project, but that ARI deliberate behaviours and strategies also impact affective outcomes for the individual.

7.4.5.2 Prediction of flourishing

Positive Affect

As a set, the predictor variables captured a modest proportion of the variance in PA (39%, see Table 18). Eight of the fourteen examined predictors made unique contributions to the model and these are discussed in turn in this section. The strongest predictor of PA was N, with lower N predicting greater PA. This result concurs with the literature on personality and well-being, and in particular, the negative consequences associated with a tendency toward N (Costa & McCrae, 1980; 1992; DeNeve & Cooper, 1998; Steel et al., 2008; Vitterso, 2001). Level of C was the next strongest contributor to the PA model. As anticipated, a tendency toward C was associated with greater PA. This finding is consistent with the result for Distress, whereby greater C predicted less Distress, and with research showing this personality trait leads to heightened positive emotionality (Chamorro-Premuzic et al., 2007; DeNeve & Cooper, 1998; Furnham & Cheng, 1997; McCrae & Costa, 1991). Extraversion was also a strong unique personality predictor of PA, with more E predicting more PA. This is an oft-reported finding in the personality literature (Costa & McCrae, 1980; Furnham & Cheng; Lischetzke & Eid, 2006; Lucas & Fujita, 2000; Pavot, Diener, & Fujita, 1990; Steel et al., 2008; Watson & Clark, 1992).

An ARI strategy scale, Seeking Pleasure/Distraction, was the next strongest predictor of PA. In line with expectations (Hypothesis 7), greater use of these strategies predicted higher PA. This finding was not surprising, as the strategies included in this scale have been previously linked with positive well-being outcomes (e.g., Fichman et al., 1999; Thayer et al., 1994; Totterdell & Parkinson, 1999). Distraction in particular has been well documented as a favourable approach for the effective regulation of affect (Augustine & Hemenover, 2009; Joorman et al., 2007; Nolen-Hoeksema, 1987; Nolen-Hoeksema & Morrow, 1991, 1993). For example, according to Nolen-Hoeksema’s Response Styles Theory (1987; Nolen-Hoeksema &
Morrow), distraction provides immediate relief from negative mood and allows one to later return to problem-solving efforts with a clearer outlook. Similarly, Augustine and Hemenover suggest that distracting activities are effective for regulating affect because they discourage thinking about the negative event or emotion in the short-term and thus prevent the onset of rumination and its detrimental consequences. Larsen and Prizmic (2004) made the same argument for the beneficial effects of distraction; that this works to the extent that it interrupts or prevents rumination. In an earlier publication, Erber and Tesser (1992) made a similar proposal. They contended that the effectiveness of distraction for affect regulation is contingent on the amount of cognitive resources required to engage in the task or activity. That is, if the distracter demands sufficient cognitive energy that one is inhibited from engaging in mood-congruent thinking, this is likely to have positive mood consequences. The current study’s findings were in line with these previous works, as engagement in pleasurable and distracting affect regulation strategies predicted higher levels of PA.

Level of emotional awareness, or attention paid toward one’s emotional experiences (DERS Awareness), was the next strongest unique predictor of PA. Consistent with Hypothesis 6, it was found that greater difficulties in relation to this affect regulation disposition was related to lower PA. This result is in line with literature that has explored the emotional awareness construct, and has proposed that high awareness is a vital component of effective emotion regulation, contributing to greater well-being (Gohm, 2003; Gratz & Roemer, 2004; Hayes & Feldman, 2004; Roemer et al., 2009). Indeed, various psychological therapies used for treating a range of disorders are specifically designed to heighten emotional awareness, including mindfulness-based interventions such as Acceptance and Commitment Therapy (Blackledge & Hayes, 2001; Hayes, Strosahl, & Wilson, 1999), Mindfulness-Based Cognitive Therapy for Depression (Segal, Williams, & Teasdale, 2002) as well as Emotion-Focused Therapy, in which increasing this awareness is one of the three key components of this approach (Greenberg, 2004). Emotional awareness has also been discussed in the emotional intelligence literature, which has proposed that healthy adaptation to one’s emotional experiences requires an advanced level of awareness and the ability to monitor these states, in self and in others (Mayer & Salovey, 1995; Salovey & Grewal, 2005; Salovey et al., 2002). Prominent affect regulation theorists such as Larsen (2000), have also noted the powerful impact of
emotional awareness, stating that individuals who are more tuned into their affective experiences are more likely to employ a certain regulation strategy if needed and be successful in modulating the affect as desired. In contrast, he discussed that not tuning into emotions can result in those emotions escalating to potentially uncomfortable levels which then require even greater regulation in order to reach optimal level of functioning.

Difficulty controlling impulsive behaviours when upset (DERS Impulse) was also a unique contributor to the prediction of PA. The direction of the association between these variables was contrary to expectations however (Hypothesis 6), as greater difficulties controlling impulses when experiencing strong emotions predicted higher PA. Interestingly, the reverse was found for NA, whereby greater difficulties controlling impulsive behaviour when upset predicted greater NA. These results suggest this affect regulation disposition can have complex effects on mood, contributing to higher levels of both positive and negative dimensions in certain situations. This finding can be interpreted in light of a trait versus state notion of impulse control. While trait impulse control is discussed as an adaptive characteristic to possess, associated with greater well-being through its association with perceived self-efficacy and acting in accord with desired goals (Emmons & Diener, 1986), it is possible the present study’s results tapped into lower state impulse control, which may be associated with short-term heightened positive emotions due to sense of freedom and lack of restrictions on one’s behaviour. For example, if the particular impulses the individual was unsuccessful in resisting were of a thrill- or pleasure-seeking nature, it is possible that enhanced positive emotions could be experienced as an outcome, as least in a short time frame. It would not be expected this reduced impulse control would be associated with longer-term mood and well-being benefits (i.e., trait impulse control difficulties) and indeed, this was found in the present study, as DERS Impulse was negatively associated with the more enduring well-being measures of SWL and PWB (see Table 19 and Table 20).

In an undergraduate student sample, Emmons and Diener (1986) investigated the influence of trait impulsivity on well-being indicators including positive and negative affect and life satisfaction. While it is acknowledged that the DERS Impulse scale does not assess impulsivity per se, it bears some resemblance to this construct. These authors discussed that the impulsivity dimension is complex and multifaceted.
They described the impulsive individual as excitable, prone to sensation seeking and acting on the spur of the moment without deliberation. This is consistent with Gray’s (1987) reinforcement sensitivity theory of personality (RST) which connotes high impulsivity with sensitivity to signals of reward. Emmons and Diener also discuss that high impulsivity can contribute to emotional volatility. Their results showed, consistent with the present findings, that higher levels of impulsivity were associated with higher negative affect. There was however no relation with positive affect or satisfaction with life. Interpreting their results, these authors discussed that the impulsive individual is expected to experience poorer well-being, as a result of disinhibited behaviour likely to have negative consequences for the self and others. They also discuss however that it is conceivable that there are some circumstances in which impulsive behaviours may be reinforced and that these individuals could therefore be expected to be happier than others. The present study’s finding in relation to PA has tapped into this complex impulsivity construct, suggesting that there are certain circumstances when lower levels of impulse control can lead to heightened positive emotions.

Greater use of the ARI Active Mood Management strategies was the next strongest unique predictor of PA. In line with Hypothesis 7, use of these strategies was associated with higher PA. This finding is discussed in the affect regulation, coping, emotional intelligence and related literatures, which have gone some way towards documenting the positive well-being effects of employing active, cognitive strategies when seeking to improve a mood state (Aldao et al., 2010; Augustine & Hemenover, 2009; Carver & Connor-Smith, 2010; Larsen & Prizmic, 2004; McCrae & Costa, 1986; McWilliams et al., 2003; Thayer et al., 1994; Totterdell & Parkinson, 1999). These strategies are directed toward actively addressing one’s mood or emotional state and the causes underlying the discrepancy between current experience and desired state. The individual is then able to rectify the situation and improved mood is made possible, as exemplified in these results for PA.

It is noteworthy that an ARI strategy scale was able to contribute unique variance in the prediction of PA, over and above the other powerful predictors in this model, including affect regulation dispositions and personality. Although the finding was expected and is interpretable, there were only a select few of the regression models tested in which the ARI scales added unique variance, including in addition to
the prediction of PA, the models for NA and SWL (discussed next). These findings suggest that within the context and methodology of the present study, it was difficult to identify the affective impact of particular affect regulation strategies. Exceptions to this, as listed above, were however present in the data. Each of these models showed interpretable relationships between affect regulation strategies and affective outcomes, supporting the validity of the construct and the new measure used to capture this, as well as highlighting possible affect regulation related avenues for therapeutic intervention.

The personality predictor, A, was the final unique significant contributor to the PA model. Contrary to expectations, a higher level of A predicted lower PA. This finding is in contrast to the raw correlation between these variables, whereby greater A was associated with greater PA (see Table 15), highlighting a possible suppression effect in the regression model for PA. This finding was analysed further using SEM and is discussed in 7.4.6.

In summary, the regression analyses identified the following unique significant predictors of greater PA: low N; high C; high E; greater ARI Seeking Pleasure/Distraction; lower levels of difficulty with DERS Awareness; greater difficulty recorded on DERS Impulse; greater ARI Active Mood Management; and lower A. There were two unexpected results, in relation to DERS Impulse and A, which are explored further in the subsequent SEM investigation. The aim of these regression analyses was to assess whether both the DERS and ARI predictors were relevant for PA (Hypothesis 5). Both these aspects of the affect regulation process were deemed relevant in the model, as two variables from each scale made a unique contribution, supporting the relevance of affect regulation strategies and dispositions in the context of PA.

**Satisfaction with Life (SWL)**

Positive outcomes for the individual were also conceptualised in this study in relation to global Satisfaction with Life (SWL, see Table 19). This affective outcome was treated as secondary to PA, consistent with the DV strategy described in 5.2. As a set, the predictor variables captured a greater proportion of this DV (45%) when compared to the model for PA (39%). As was the case for PA however, eight of the fourteen predictor variables made a significant contribution in predicting SWL, but a
different set of predictors were deemed important in relation to this cognitively-oriented affective outcome variable.

Unsurprisingly, N was the strongest predictor of SWL. Higher scores for N were predictive of lower levels of SWL. There is much literature documenting the poor well-being associated with this personality dimension (Costa & McCrae, 1980, 1992; DeNeve & Cooper, 1998; Gonzalez Gutierraz et al., 2005; Hayes & Joseph, 2003; McCrae & Costa, 1991; Vitterso, 2001; Watson & Clark, 1992) and the current study found evidence consistent with this in an affect regulation context. It was also unsurprising that perceived control over affect, captured by the DERS Strategies scale, was the next strongest (affect regulation) unique contributor to SWL. In line with Hypothesis 6, lower perceived control predicted less satisfaction with one’s life. As discussed in relation to Distress, where low scores for perceived control predicted greater Distress, there is much literature documenting the negative well-being consequences of the perception that one does not have access to, or the skills necessary, to modify a mood state as desired (Catanzaro & Mearns, 1990, 1999; Catanzaro et al., 2000; Hemenover et al., 2008; Kassel et al., 2006; Mearns et al., 2009). The present study found evidence in accordance with these past findings. Further, the results illustrate that this aspect of the affect regulation process exerted effects on both negative and positive dimensions of outcomes, namely, influencing increased Distress and decreased SWL.

The personality dimension, C, was also a unique predictor of SWL. Greater scores for C predicted greater life satisfaction. This personality variable has emerged as a strong predictor of outcomes in this study, adding unique variance in each of the DV models discussed so far, including both negative and positive dimensions of outcomes. As previously discussed, this is a relatively novel finding in the personality and well-being literatures, but is readily interpreted and has been discussed by others (e.g., Chamorro-Premuzic et al., 2007; DeNeve & Cooper, 1998; Furnham & Cheng, 1997; Hayes & Joseph, 2003; Joshanloo & Rastegar, 2007; McCrae & Costa, 1991; Vollrath & Torgersen, 2000).

The next strongest unique predictor of SWL was E, whereby greater E contributed to greater satisfaction. Again, this finding is unsurprising; it is well-established from personality and well-being studies (Costa & McCrae, 1980; Furnham & Cheng, 1997; Lischetzke & Eid, 2006; Lucas & Fujita, 2000; Pavot et al., 1990;
Steel et al., 2008; Watson & Clark, 1992). It is noteworthy that the present regression results were in line with existing literature, whereby E exerted stronger effects on the positive (PA and SWL), rather than negative (Distress and NA) dimensions of outcome. The next highest predictor demonstrated a similar pattern of association with the outcomes, significantly impacting positive but not negative dimensions. Specifically, the strategy scale, Active Mood Management was the next strongest contributor to the SWL model, whereby greater use of these strategies for upward regulation of affect were associated with higher SWL. This finding supports Hypothesis 7 and highlights the relevance to outcomes of considering specific strategies used by the individual. It also shows some effective ways of remedying unpleasant affect.

Level of DERS Awareness significantly predicted SWL, over and above other variables in this model. As identified for PA and in line with Hypothesis 6, greater difficulties in relation to this affect regulation disposition were associated with lower life satisfaction. This finding concurs with literature concerning the positive effects of attending to and acknowledging one’s emotional experiences (e.g., see Gohm, 2003; Gratz & Roemer, 2004; Hayes & Feldman, 2004; Roemer et al., 2009; Greenberg, 2004; Larsen, 2000; Mayer & Salovey, 1995). It is also noteworthy that the present study identified these beneficial effects in relation to positive but not negative affective outcome variables.

The remaining two unique predictors of SWL were associated with this dependent variable in directions contrary to expectations. Specifically, the affect regulation disposition variable capturing impact of emotions on goal-directed activities (DERS Goals) was the next strongest predictor. Opposite to expectations and the raw correlation between these variables, greater difficulties in this domain predicted greater SWL. Additionally, O was a significant negative predictor of SWL, such that higher scores on this personality dimension were associated with lower satisfaction. This result was also in contrast to the raw correlation between these variables, suggesting that a suppression effect was evident in the model in relation to these two variables. This was tested using SEM and is discussed further in this section (7.4.6).

In summary, the regression models showed that higher SWL was explained predominantly by personality and affect regulation disposition variables. Higher
SWL was predicted by lower N and higher C and E, greater perceived control over affect and emotional awareness and greater use of the Active Mood Management strategies. There were two unexpected associations, in relation to DERS Goals and O, as listed above. Overall the findings show some support for the study hypotheses, with variables representing both components of affect regulation phenomena making a unique contribution to SWL in anticipated directions. These findings point to the need to consider specific affect regulation strategies that are employed, and the particular affect regulation dispositions. It is contended that consideration of both these elements of the affect regulation process promises to yield a more detailed picture concerning outcomes for the individual.

Psychological Well-Being (PWB)

The final positive outcome variable explored in this study was Psychological Well-Being (PWB). As for SWL, this DV was treated as a secondary affective outcome variable to the primary PA (see 5.2). When the affect regulation and personality predictors were regressed onto PWB, 66% of total variance was captured (see Table 20). This was a higher proportion of explained variance than that identified for previous models for PA and SWLS, showing that the examined predictor variables were strongly related to this affective outcome. As also found for these previous models however, eight of the fourteen predictors contributed unique significant variance in PWB, and N was the strongest contributor to the model. As anticipated, greater N predicted reduced PWB. In line with findings for SWL, the next strongest predictor was the affect regulation disposition variable that captured perceived control over affect (DERs Strategies). Perceived lack of control over one’s affect, and a sense that one does not have access or the skills to employ effective regulation strategies predicted reduced PWB. This was an expected finding (Hypothesis 6), and points to the importance of this disposition variable in relation to affective outcomes. This variable had broad influence in Study 2, exerting unique significant effects in four of the five tested regression models.

The personality predictor C was the next strongest predictor of PWB. Higher scores for C were associated with higher PWB. The size of this effect was only marginally smaller than that identified for N and perceived control over affect, highlighting the relevance of this personality dimension when considering affective
outcomes. As previously stated, it is noteworthy that this personality predictor exerted unique effects in each of the regression models tested, over and above other powerful predictors in the models. The present study has identified sound evidence to suggest that, as a relatively novel finding in the literature, level of C is pertinent to discussions of personality, affect regulation and affective outcomes.

Level of E was a unique predictor of PWB. As expected, a tendency toward this trait was associated with greater PWB. In line with what has been well established in the personality literature (Costa & McCrae, 1980; Furnham & Cheng, 1997; Lischetzke & Eid, 2006; Lucas & Fujita, 2000; Pavot et al., 1990; Steel et al., 2008; Watson & Clark, 1992), E contributed significant variance in predicting each of the flourishing outcome variables under investigation in this study. Level of O was also a unique personality predictor of PWB. Although having only a small impact in the regression model for NA, and being involved in a suppression effect in the model for SWL, this personality predictor exerted a strong influence in accounting for PWB. It was found that higher scores for O were associated with greater PWB. The mixed findings here in relation to this personality predictor align with existing work, which has suggested this trait contributes to higher levels of both positive and negative emotional experiences (Chioqueta & Stiles, 2005; Costa & McCrae, 1991, 1992; Steel et al., 2008). The current study result for PWB is informative however, indicating that a tendency toward O was a factor in creating higher overall well-being, in terms of a sense of autonomy, environmental mastery, positive relations with others, purpose in life, personal growth and self-acceptance.

The affect regulation disposition, DERS Emotional Clarity was the next strongest predictor of PWB. As hypothesized (6), greater emotional clarity, or fewer difficulties understanding the particular emotions experienced by the individual, predicted greater PWB. This variable was of clear influence in the current study regression models for predicting languishing, whereby less clarity was associated with higher Distress and Negative Affect. Interestingly however, PWB is the only flourishing outcome model where level of clarity had a significant impact. As discussed in relation to the model for Distress, the well-being impact of emotional clarity has been documented in a range of literatures (Gratz & Roemer, 2008; Mayer & Salovey, 1995; Rivers et al., 2007; Saarni, 1999; Salters-Pedneault et al., 2006;
Salovey et al., 2002) and this study found support for this in terms of both greater PWB and reduced Distress and NA.

In line with Hypothesis 6, a greater level of DERS Emotional Awareness significantly predicted greater PWB. As discussed previously, the benefits of awareness of one’s emotional states have been documented in the Mindfulness and ACT literatures (Hayes & Feldman, 2004), as well as by emotional intelligence (Mayer & Salovey, 1995; Salovey et al., 2002) and affect regulation (Larsen, 2000) theorists, plus others (Gratz & Roemer, 2004; Greenberg, 2004). The present study identified support for this work in relation to flourishing outcomes: overall PWB; global SWL; and level of PA. This affect regulation disposition variable did not however contribute significant explanatory variance in the regression models for languishing: Distress; and NA, suggesting that this aspect of the affect regulation process had greater impact on the positive rather than negative affective outcomes.

The final significant predictor of PWB was level of A. This personality dimension had only minor effects in the current study regression models, predicting lower NA in addition to greater PWB. Existing literature (e.g., DeNeve & Cooper, 1998; McCrae & Costa, 1991; Watson & Clark, 1992), including that with an affect regulation focus (Haas et al., 2007; Tobin et al., 2000) has discussed the well-being implications of a tendency toward A and the present study highlighted some support for these works.

Contrary to expectations (Hypothesis 5), the ARI strategy scales did not contribute uniquely to the prediction of PWB over and above the other variables considered in this model. This is somewhat unsurprising given the nature of the PWB construct under investigation. Specifically, Ryff’s (1989, 1991) notion of PWB questions the individual on such matters as sense of autonomy, personal growth, positive relations with others and purpose in life. It is reasonable that associations between scales capturing these phenomena and the specific strategies individuals use on a day-to-day basis for affect regulation, would be difficult to identify in a cross-sectional, self-report study design. This is particularly the case when the specific behavioural strategies are competing for variance in PWB with known powerful predictors of outcomes such as personality.
In summary, the regression model for predicting PWB did not support Hypothesis 5, as the DERS but not ARI variables were unique significant predictors of this flourishing affective outcome. This finding may be due to the nature of this outcome variable as described above. The regression results showed that in the current study, greater PWB was explained by: lower N; higher perceived control over one’s affect; higher C; higher E; higher O; greater emotional clarity; greater emotional awareness; and higher A. Personality traits were the dominant predictors of this affective outcome, however it is noteworthy that the affect regulation dispositions were relevant and warrant consideration in further studies.

When the affect regulation and personality predictor variables were regressed onto the three flourishing DVs, results were slightly different for each. These findings highlighted the conceptual distinctiveness between different aspects of flourishing and the need for comprehensive assessment of these outcomes in research. While the personality variables were the strongest predictors of outcomes, regulation strategies and dispositions were also important in determining positive affective outcomes, consistent with Hypothesis 5. Specifically, use of ARI Active Mood Management strategies predicted greater PA and SWL, and ARI Seeking Pleasure and Distraction strategies also influenced level of SWL. The disposition variables, DERS Strategies (i.e., perceived control over affect) and Emotional Awareness were unique significant predictor of all three flourishing outcomes; while DERS Impulse Control predicted level of PA, DERS Goals was a unique predictor of SWL, and DERS Emotional clarity impacted PWB. These findings point to the relevance to outcomes of the particular regulation strategies engaged in by the individual and their tendencies concerning perceptions and appraisal of affective experiences (affect regulation dispositions). They suggest that the two aspects of the affect regulation process under investigation in this study are pertinent in the context of flourishing affective outcomes that are experienced.

Summary of regression model results for Aim 3

The regression models examined the prediction of flourishing and languishing outcomes from the perspective of affect regulation. Combining results from across these models, the findings point to a selection of predictors of greatest influence in determining outcomes and highlight some conclusions concerning how affect
regulation and personality jointly influence well-being. Interestingly, although in a different order, the same four variables were the strongest predictors of both languishing DVs: Distress and NA. This finding strengthens the relevance of the particular independent predictors and reinforces the expected conceptual overlap of the Distress and NA constructs. Specifically, increased Distress and NA was predicted by: greater N, perceived lack of control over affective experience (DERS Strategies); lower DERS Emotional Clarity; and lower DERS Emotional Acceptance. Higher Distress was also predicted by lower C and higher NA was influenced by lower A. These results indicate that the affect regulation disposition and personality predictors were of comparable importance in contributing to languishing in this study. Correspondingly, the findings show that particular strategies employed by individuals for regulating affect were less relevant.

Level of flourishing was most strongly influenced by a different set of variables to those for languishing. This is expected and interpretable in light of the orthogonal nature of positive and negative mood (Watson et al., 1988). Interestingly, a slightly different set of predictors were deemed important for the three flourishing outcome variables examined. There were three predictors however that were among the strongest predictors for each of PA, SWL and PWB. Higher PA, SWL and PWB were predicted by lower scores for N and higher scores for C and E. This finding is testament to the powerful influence of personality in determining flourishing outcomes, whether this is conceived of in terms of level of PA or the more cognitively-oriented SWL and PWB.

In addition, the other outstanding predictors of higher PA included an ARI scale, Seeking Pleasure and Distraction, and DERS scale, Emotional Awareness. Greater use of these strategies and greater awareness predicted greater PA. The remaining strong predictors of SWLS were also an ARI strategies scale, Active Mood Management, as well as a DERS disposition scale representing perceived control over affect (DERS Strategies). Greater use of the Active strategies and greater perceived control over affective states predicted higher SWL. Similarly, perceived control over affect was one of the strongest significant predictors of PWB. Higher scores for O also predicted greater PWB.

In summary, the findings for flourishing are consistent with the languishing outcome models, such that affect regulation dispositions and personality traits were
the strongest determinants of outcomes. A point of difference in relation to flourishing was the inclusion of particular affect regulation strategies (i.e., ARI Seeking Pleasure and Distraction and Active Mood Management) in amongst the strongest predictors. This finding is illuminating because it is this set of variables under investigation in the current study that can provide leverage for behavioural change and potentially, enhanced well-being. If there is greater understanding about what works and what does not, in terms of affect regulation strategy use and affective outcomes, there can be more instruction concerning effective ways for individuals to respond to unpleasant experiences of affect.

7.4.6 Aim 3: Developing a detailed model of the affect regulation process: Impact of the ARI and DERS variables on the five affective outcomes, using SEM

Structural equation models were developed to further investigate the interplay between affect regulation strategies, dispositions and personality variables in predicting the five affective outcomes. In particular, SEM was used to test the individual impact of the IVs on outcomes, as well as the effect on outcomes of including all these variables (i.e., ARI strategies; DERS dispositions; and API personality) in a predictive model. As previously discussed (see 7.2.8), this SEM investigation allowed for specific testing of the fit between this study’s sample data and the hypothesised models, and whether latent constructs such as “affect regulation strategy use” were suitable in the context of these models. Also described in 7.2.8, all independent predictors were included in the primary languishing model, Distress and the primary flourishing model, PA, and the best fitting model revealed in relation to these outcome variables was used as the starting point for examining the corresponding outcomes (languishing: NA; flourishing: SWLS, PWB). The findings for each outcome variable are discussed in turn below.

7.4.6.1 Prediction of languishing

Psychological Distress

A number of developmental and alternative steps were considered in the SEM model that tested the prediction of Distress. Changes were made systematically to the full structural model, in an effort to find acceptable fit, including for example, the removal of nonsignificant predictors and addition of direct paths between variables if
deemed theoretically sensible. A model was retrieved that accounted for a sizeable portion of the variance in Distress (71.6 %, see Figure 12) and included significant paths that were theoretically interesting and interpretable. This model was found to be marred by suppression however, as the association between two of the variables in the model, Active Mood Management and Distress, was in the opposite direction to their raw correlation. Following failed attempts at identifying the cause of the suppression, it was decided that it was not statistically plausible or sensible to continue investigation of the full structural model for Distress. Instead, the hypotheses concerning the prediction of Distress were tested individually in a series of simplified models.

The first model tested the impact of use of Active Mood Management strategies on Distress (see Figure 13). As anticipated, although accounting for only a small portion of the variance in Distress (4.9%), the Active strategies construct was a negative predictor. Consistent with Hypothesis 7, greater use of these strategies predicted lower scores on Distress. This finding is noteworthy, as it concurs with literature concerning the positive health effects of using active and cognitive regulation strategies when seeking to improve mood (Aldao et al., 2010; Augustine & Hemenover, 2009; Carver & Connor-Smith, 2010; Larsen & Prizmic, 2004; McCrae & Costa, 1986; McWilliams et al., 2003; Thayer et al., 1994; Totterdell & Parkinson, 1999). It is acknowledged that Active Mood Management captured only a modest portion of variance in Distress. However, this was a reduced model with a single predictor variable, formulated using a 5-item scale, and single dependent variable, based on a 10-item scale. It is therefore reasonable that this model would capture only a small portion of possible explanatory variance. In this way, this result is presented primarily as a comment on the manner in which the particular variables were associated in this study rather than interpreting the findings in a predictive sense.

The notion that one beneficial way of responding to an unpleasant mood is via regulation strategies that actively address and manage this is not a new finding (see Aldao et al., 2010; Augustine & Hemenover, 2009; Carver & Connor-Smith, 2010; Larsen & Prizmic, 2004; McCrae & Costa, 1986; McWilliams et al., 2003; Thayer et al., 1994; Totterdell & Parkinson, 1999). This study found support for these previous ideas, analysing the data with a variety of statistical techniques and yielding consistent
evidence of the link between active and cognitive-oriented regulation strategies and decreased experience of negative affective states.

The second model (Figure 14) tested the impact of the personality variables that remained in the model, N and C, on use of Active Mood Management strategies. Results indicated that a tendency toward N predicted lower levels of usage of Active Mood Management strategies. In contrast, a tendency toward C was related to higher usage of the adaptive Active strategies. It is again necessary to acknowledge that these personality predictors captured only a modest portion of variance in use of Active strategies (13.4%), however as with the previous analysis, this was a much-reduced model with a small number of predictor variables and a single dependent variable.

There is a substantial literature documenting associations between personality and the ways in which individuals respond to mood and emotional experiences (Carver & Connor-Smith, 2010; Cosway, Endler, Sadler, & Deary, 2000; DeLongis & Holtzman, 2005; John & Gross, 2004; Kokkonen & Pulkinnen, 2001; Lischetzke & Eid, 2006; O’Brien & DeLongis, 1996; McCrae & Costa, 1986; McWilliams et al., 2003; Suls, David, & Harvey, 2006; Thayer et al., 1994; Vollrath & Torgersen, 2000; Vollrath et al., 1995; Watson & Hubbard, 1996). Indeed, general ways of responding to moods and emotions are among the key descriptive features of personality traits. For example, Costa and McCrae’s (1992) account of N specifies that the distressing emotions of high scorers tend to interfere with adaptive behaviour, causing these individuals to cope more poorly with stress than others and to be less able to control impulses. Although their account of C is less oriented around the emotional lives of these individuals, Costa and McCrae describe that the self-control, determination and purposeful attitude of high scorers to be associated with management of their desires and impulses for the greater good of achievement and success. The finding that N was negatively and C was positively associated with the active, cognitive strategies directed at managing one’s affect and negative thinking, is interpretable in light of these accounts of the nature of the traits. Moreover, this finding is consistent with previous studies (e.g., Carver & Connor-Smith, 2010; McCrae & Costa, 1986; Vollrath & Torgersen, 2000; Watson & Hubbard, 1996).

The next simplified model (Figure 15) investigating the prediction of Distress illustrated that greater difficulties in relation to the affect regulation dispositions
predicted lower scores on Active Mood Management. That is, greater difficulties with emotional clarity, emotional acceptance, impulse control, continuing with goal-directed activity when upset and accessing effective regulation strategies when upset was related to being less likely to report using Active Mood Management strategies. This model also accounted for just a small portion of total explanatory variance (9.9%). The finding is illuminating however, as there is minimal research into the links between the general ways that individuals approach and process their emotional experiences (termed here as affect regulation dispositions) and the specific regulation strategies they use. Previous studies that have tested some aspects of these associations but not all the variables examined in this analysis are in support of the present results (e.g., Drwal, 2008; Hemenover et al., 2008; Totterdell & Parkinson, 1999).

The interplay between these affect regulation dispositions and strategies in the prediction of outcomes was a core question in Study 2. The SEM results indicated that, firstly, the Active Mood Management scale was the strongest of the three affect regulation scales in predicting Distress, and further, that use of these strategies is predicted by emotional processing tendencies (i.e., the affect regulation dispositions). Although it is not possible within the methodology of this study to draw assertions concerning the relationships between these phenomena in real time, it is proposed that the affect regulation dispositions represent the more general and overarching mechanisms of response to mood and emotional experiences, which then go on to influence the particular regulation strategies that one chooses to employ (see Figure 1). Irrespective of the time frame implicated, evidence has been found in this study to support links between these phenomena, providing deeper insight into the processes through which affect regulation dispositions and strategies influence health and well-being outcomes.

The final stepwise model (see Figure 16) for Distress tested associations between the traits N and C and difficulties in relation to affect regulation dispositions. This model found that N and C together accounted for a sizeable portion of variance in dispositions (75.4%), with higher scores for N and lower scores for C predicting greater overall difficulties. This finding is consistent with literature on the nature of these particular personality traits. Specifically, it is very well established that a tendency toward N is related to mood instability and overall difficulties with
emotional experiences (Carver & Connor-Smith, 2010; Chapman, 2006; Davies et al., 1998; DeNeve & Cooper, 1998; Hemenover, 2003; John & Gross, 2004; Kokkonen & Pulkkinen, 2001; McCrae & Costa, 1991; Wood et al., 2003) and there is also mounting evidence to support links between C and positive emotional experiences (Carver & Connor-Smith, 2010; Chamorro-Premuzic et al., 2007; DeNeve & Cooper, 1998; Furnham & Cheng, 1997; Hayes & Joseph, 2003; McCrae & Costa, 1991; Vollrath & Torgersen, 2000).

There are a limited set of conclusions that can be drawn from the simplified SEM models conducted in the present study. It was not possible to directly test Hypothesis 8, i.e., comment on the simultaneous interrelationships between the strategies, dispositions and personality variables in the prediction of Distress, because of the suppression effect identified in the full model. Instead, the interplay and associations between these variables is inferred from the present simplified models. Taken together, these models showed that low scores for N and high scores for C, and less difficulties in terms of affect regulation dispositions predicted higher use of Active Mood Management strategies. Further, low scores for N and high scores for C predicted reduced difficulties represented in the dispositions. Finally, greater use of Active Mood Management strategies predicted lower reported levels of Distress.

The findings from the simplified models are somewhat novel. Although associations between the variables under investigation may be surmised from the existing literature, few studies have tested direct pathways. For example, there has not been much research into relationships between personality and the affect regulation dispositions, captured in the current study with the DERS. How these dispositions are related to use of particular strategies has received little research attention, and indeed, the authors of the DERS discussed that information concerning use of particular strategies was not pertinent (Gratz & Roemer, 2004). Instead, these authors posit their scale captures what is most relevant in terms of understanding affect regulation and illness and well-being outcomes. The present study found some support for their ideas, as the regression analyses for example revealed the DERS explained sizeable portions of variance in the outcome variables, frequently accounting for unique variance while the affect regulation strategy predictors were not significant contributors to the models. However, support for the relevance of the latter has been indicated by the SEM results, whereby Active Mood Management
strategies significantly predicted lower Distress. It is necessary to acknowledge the limitations to this finding however: first, a suppression effect was identified in relation to this pathway in the full structural model; and second, the portion of explained variance in Distress by Active Mood Management was modest.

**Negative Affect**

The SEM full structural model for NA was found to be an adequate fit and accounted for a sizeable portion of total variance in NA (56.6%, see Figure 17). However, the separate model approach was also necessary for NA, as the suppression effect was again evident in this full model. The simplified model (Figure 18) found in line with expectations (Hypothesis 7), that greater use of the Active Mood Management strategies predicted lower levels of negative emotionality, or NA. Unsurprisingly given the overlapping content of these outcome variables, this finding is consistent with the result for the prediction of Distress, which also found Active Mood Management negatively predicted Distress levels. Taken together, these models support the relevance of considering particular affect regulation strategies when seeking to understand the mechanisms involved in negative affective experience and self-reported Psychological Distress.

7.4.6.2 Prediction of flourishing

**Positive Affect**

The personality, affect regulation disposition and strategy indicators were tested in a structural model predicting level of PA. The model that eventuated after statistical adjustments were adhered to in an effort to find model fit, was a reduced-size version compared to the original but nevertheless informative concerning predictors of positive emotional experience. It is noteworthy that this model met all goodness-of-fit criteria, including the highly stringent chi-square statistic, further supporting the validity of findings.

The final, best-fitting model for PA (Figure 23) identified three personality, one affect regulation disposition and one strategy variable of greatest relevance in the prediction of positive emotional experience. The strongest contributor to the model was N. In line with solidly established literature concerning personality and affect
(Costa & McCrae, 1980; 1992; DeNeve & Cooper, 1998; McCrae & Costa, 1991; Steel et al., 2008; Vitterso, 2001; Watson & Clark, 1992), low N predicted higher PA.

Interestingly, the second strongest contributor in this model was ARI Seeking Pleasure/Distraction. This last remaining strategy scale in the model was a positive predictor of PA, such that greater use of these strategies was related to greater PA. This finding was consistent with expectations (Hypothesis 7) and is particularly noteworthy because of the powerful competing predictors in this model, such as personality traits. Unlike in the model for Distress, whereby a suppression effect was revealed in relation to the ARI strategy scale that remained (Active Mood Management) and the simplified model approach was subsequently required, use of Seeking Pleasure/Distraction strategies was a clear and strong predictor of PA. Further, existing literature concerning distracting and pleasure-seeking affect regulation strategies is consistent with these SEM findings for PA (Augustine & Hemenover, 2009; Erber and Tesser, 1992; Fichman et al., 1999; Joorman et al., 2007; Larsen and Prizmic, 2004; Nolen-Hoeksema & Morrow, 1991, 1993; Thayer et al., 1994; Totterdell & Parkinson, 1999; for more discussion of this literature, see findings from the regression model for PA).

The personality trait C was the third strongest predictor of PA outcomes in the SEM. In line with the growing literature on the well-being benefits of this trait (Carver & Connor-Smith, 2010; Chamorro-Premuzic et al., 2007; DeNeve & Cooper, 1998; Furnham & Cheng, 1997; Hayes & Joseph, 2003; McCrae & Costa, 1991; Vollrath & Torgersen, 2000), high scores for C predicted higher PA. The magnitude of the association between C and PA was comparable to that identified for the frequently dominant N and PA, pointing to the relevance of considering scores on this particular personality dimension when seeking to predict positive emotionality.

This model also supported the relevance of the affect regulation disposition variable, DERS Awareness. As hypothesized (6), greater levels of emotional awareness were associated with higher PA. This finding is especially noteworthy in the context of the Mindfulness, Acceptance and Commitment Therapy and Emotional Intelligence literatures, which support the importance of this type of variable when examining and seeking to heighten, positive emotional experience and overall well-being (Blackledge & Hayes, 2001; Hayes & Feldman, 2004; Hayes et al., 1999;
Emotional awareness was the only disposition predictor in this PA model. This was in contrast to the final full model for Distress, which included five disposition scales, represented by the higher-order construct labelled affect regulation dispositions. The difference in findings highlights the importance of comprehensive investigation of affective outcomes (so termed in this project) when seeking to understand how affect regulation phenomena impacts the individual. A contrasting set of variables were deemed relevant when examining the prediction of these alternate outcome indicators.

The final contributor to the model for PA was E. It is interesting that, contrary to much literature concerning the links between E and positive emotionality (Costa & McCrae, 1980; Furnham & Cheng, 1997; Lischetzke & Eid, 2006; Lucas & Fujita, 2000; Pavot et al., 1990; Steel et al., 2008; Watson & Clark, 1992), this personality dimension was the smallest significant predictor of PA. The direction of the association was in line with expectations however, and this variable remained a significant predictor of PA while a number of other independent variables had dropped to non-significance. Furthermore, as stated previously, there is just one facet of the E trait that refers to a particular style of emotionality (i.e., tendency to positive emotionality) as compared to N for example, which is heavily-laden with affect-related description. Each facet of N refers to the emotional style and tendencies of individuals based on their scores on this dimension.

In the prediction of PA, some additional pathways were proposed. Specifically, the data suggested a positive association between the traits E and C and the affect regulation disposition, DERS Awareness. That is, high scores for E and for C predicted a higher level of emotional awareness. This specific finding is relatively novel, in that literature is sparse concerning relations between the DERS scale and personality characteristics. However, the personality literature has thoroughly explored the affective nature of the Five-Factor model traits, for example, and the finding is interpretable in light of this existing work. This is particularly the case for C, as the disciplined, diligent approach taken by individuals showing a tendency toward this trait (Carver, Johnson & Joormann, 2008; DeNeve & Cooper, 1998; Furnham & Cheng, 1997; McCrae & Costa, 1991; Schmidt & Hunter, 1998; Vollrath
& Torgersen, 2000) could be anticipated to extend to a high level of productive attention directed toward emotional experiences.

The data further suggested that high levels of E and of DERS Emotional Awareness predicted greater use of Seeking Pleasure/Distraction strategies. It was anticipated that individuals showing a tendency toward E would report an inclination for using the strategies represented in Seeking Pleasure/Distraction, which include interpersonal activities such as call, talk to, or be with someone and energetic activities such as exercise and engage in a pleasant (fun) activity. A willingness or desire to engage in these sorts of behaviours is consistent with the nature of this trait (Costa & McCrae, 1992). The result concerning Emotional Awareness and this strategy dimension was interesting. Specifically, this result indicates that a high level of attention directed toward emotional experiences or the sense of being “tuned in” to one’s emotions predicted greater use of affect regulation strategies of a distraction and pleasure-oriented nature. In other words, a sense of being tuned in to one’s emotions predicted use of strategies that directed attention away from emotions and toward pleasure-inducing activities.

This finding appears counter-intuitive but lends itself to a few possible interpretations. This result could suggest that it is the individuals who report paying attention to their emotions who are then able to recognise when a particular emotional experience requires regulation via the effective distracting and pleasure-inducing activities. Alternatively, this could suggest that individuals who report paying a high level of attention to emotional experiences report greater use of regulation strategies that direct attention away from these experiences in an effort to find relief from overwhelming or persistent or undesired emotions. That is, these individuals may choose distraction for their affect regulation in an attempt for reprieve from their tendency to be focused on emotional experiences. In the context of this model that was oriented toward the prediction of a flourishing outcome, PA, the former is the more supported interpretation. The findings from this model suggest that individuals with a high level of emotional awareness reported greater use of pleasurable and distracting affect regulation strategies, which were in turn related to increased PA.
Satisfaction with Life

The final, best-fitting model for predicting the alternate flourishing dependent variable, Satisfaction with Life (SWL), was different to that identified for PA. This was anticipated and highlights qualitative differences between these two conceptualisations of well-being: the affect-oriented PA; and cognitive-oriented SWLS. It was found that life satisfaction was best predicted by two of the personality and two affect regulation strategy variables. These accounted for a sizeable portion of variance in this affective outcome (52%, see Figure 26). Interestingly and contrary to Hypothesis 5, the affect regulation dispositions did not feature in the model for SWLS. It is further noteworthy that as for the final PA model, this model met all the goodness-of-fit statistical criteria, providing added evidence for the validity of these results.

Unsurprisingly, and consistent with the finding for PA, a low level of N was the strongest predictor of greater life satisfaction. More frequent use of the Active Mood Management strategies was the next strongest predictor of SWL. This result supports expectations (Hypothesis 7) and the relevance of information concerning particular affect regulation strategy use when seeking to understand an individual’s level of well-being. The finding is also unsurprising, as it concurs with literature on the benefits of active and cognitive-oriented responses to affect (Aldao et al., 2010; Augustine & Hemenover, 2009; Carver & Connor-Smith, 2010; Larsen & Prizmic, 2004; McCrae & Costa, 1986; McWilliams et al., 2003; Thayer et al., 1994; Totterdell & Parkinson, 1999), and is consistent with the results for Distress, whereby greater use of Active Mood Management predicted less Distress. Also in keeping with expectations, higher scores for C predicted greater life satisfaction in this model. This study has so far yield substantial evidence to suggest that a tendency toward this personality dimension is associated with positive affective outcomes. The final predictor of higher SWL was more frequent use of Seeking Pleasure/Distraction strategies, consistent with Hypothesis 7. This strategy scale was also found to predict greater PA using SEM, supporting the notion that this set of regulation strategies contributes to beneficial outcomes for the individual.

In the prediction of SWL, there were a number of additional pathways suggested by the data. It was found that a low level of N and high level of C predicted greater use of Active Mood Management strategies. This was a replication
of the finding identified in the simplified model for Distress, whereby lower N and higher C predicted greater Active Mood Management. The replication of this association in the context of SWL highlights the relevance of these strategies in shaping affective outcomes, and demonstrates the impact of traits on regulation strategy use. It was also indicated in this model that lower N predicted greater use of Seeking Pleasure/Distraction strategies. This finding suggests one possible pathway contributing to reduced well-being of high N individuals: lack of use of beneficial affect regulation strategies such as those represented in Seeking Pleasure/Distraction. For example, as found in this data, less frequent use of these strategies was associated with lower SWL scores.

There was one final additional pathway suggested by the data in this model. In the context of predicting SWL, it was found that greater use of the Seeking Pleasure/Distraction strategies was associated with greater use of the Active Mood Management strategies. This finding can be interpreted a few ways. First, this association may represent an overall tendency toward greater use of affect regulation strategies, whether of a pleasurable and distracting or active and cognitive nature. Second, strategies represented by these latent constructs also share features in common, in that both have been found to be beneficial for affective outcomes, predicting higher SWL for example. An association between the two is therefore reasonable and interpretable. It must be noted however, that although timing cannot be specified in this cross-sectional study, the direction of this pathway suggested that greater use of Seeking Pleasure/Distraction strategies predicted greater use of Active Mood Management strategies. This finding implies that in an effort to improve a bad mood, individuals reported using strategies that were pleasure-inducing and distracting, followed by strategies that were oriented toward the problem mood itself, such as active problem-solving, cognitive reappraisal and stress management. It is acknowledged that the timing of this relationship is inferred and not specified by the data, but this particular pathway seems plausible in this regard. Individuals first sought relief and distraction from their emotional state and were then able to move on to strategies more oriented toward delving into the problem and its causes.
Psychological Well-Being

Level of Psychological Well-Being (PWB) was best predicted by four personality, one affect regulation disposition and one strategy indicator. The final model for PWB was an excellent statistical fit as it met all goodness-of-fit criteria including chi-square. Similarly good fitting models were found in the prediction of PA and SWLS. The model accounted for a generous portion of total variance in PWB (77.3%, see Figure 28), adding further weight to these findings. As anticipated and in line with the models for PA and SWL, the strongest predictor of higher PWB was low N. Combining these results from across the three flourishing models, it was apparent that a tendency toward this personality trait was a strong predictor of negative affective outcomes. This is not surprising in light of what has been well established in the personality literature (Costa & McCrae, 1980; 1992; DeNeve & Cooper, 1998; Gonzalez Gutierrez et al., 2005; Hayes & Joseph, 2003; McCrae & Costa, 1991; Vitterso, 2001; Watson & Clark, 1992).

High scores on the C and E scales were the next strongest predictors of greater PWB. Level of C was among the strongest predictors also for PA and SWLS, and was included in the simplified models for Distress and NA. These results highlight the relevance of C when seeking to predict both languishing and flourishing outcomes. This relatively novel finding in the literature has been convincingly supported in the present data. Level of E also featured in the model for predicting PA, but was the smallest predictor in this model. This personality dimension did not exert the same influence in the structural models as the traits N and C, as it was not a significant predictor of SWL, and did not feature in either the model for Distress or NA.

An interesting finding in relation to this PWB model was that the three strongest predictors were personality variables. The direction of these pathways were consistent with findings in the personality literature, and the relevance of personality to this particular well-being outcome is interpretable in light of the nature of the PWB construct. That is, the scale used for capturing this construct asks respondents to rate themselves according to their agreement with similar statements to those used for measuring personality, assessing general tendencies in terms of thinking about self, interpersonal relationships, sense of autonomy and life purpose. These sorts of self-
evaluations are also under examination in a personality inventory and it is reasonable that these scales assessing comparable phenomena would be associated.

Greater DERS Emotional Awareness was the next strongest predictor in the model for PWB. Interestingly this was the last remaining affect regulation disposition scale in the present model, as was also identified in the prediction of PA. Furthermore, the disposition scales did not feature at all in the model for SWL. These findings suggest that while the content of the DERS scales were more relevant to the languishing rather than flourishing conceptualisations of well-being, the emotional awareness scale was pertinent to flourishing. The association between this scale and PWB in particular is interpretable with reference to the nature of the items comprising the scale. The finding demonstrates that individuals who reported a high level of awareness and attention directed to their emotional experiences were more likely to receive a high score for PWB, which is represented by such subscales as self-acceptance, personal growth, autonomy and environmental mastery. As hypothesised (6) and also identified in relation to PA, a greater level of emotional awareness was found to be of PWB benefit to individuals in this study.

A tendency toward the personality trait A was the next strongest predictor in the PWB model. This is the first model in which A has been deemed relevant, as the trait was removed from the languishing models due to lack of significant contribution, was implicated in a suppression effect in the model for PA and was not a significant predictor in the SWLS model. It is noted that PWB is the only dependent variable under investigation in this study that includes specific reference to interpersonal relationships: one of the subscales of the instrument is Positive Relations with Others. Hence, it is to be expected that the interpersonal trait of A would be a significant predictor of scores on PWB. This is just one of six subscales comprising the instrument however, and the association between A and PWB in the SEM indicates that the personality dimension was relevant to outcomes. Other researchers have previously noted the well-being implications of this trait (Bienvenu et al., 2004; Chamorro-Premuzic et al., 2007; Costa & McCrae, 1991; DeNeve & Cooper, 1998; Malouff et al., 2005; McCrae & Costa, 1991; Watson & Clark, 1992).

As hypothesised (7), greater use of Active Mood Management strategies was the final significant predictor of higher PWB. This strategy subscale has been a consistent predictor of outcomes in this study. It made a significant contribution in
the models for both languishing DVs, and the flourishing SWLS and current PWB model. These findings highlight the use of taking an active and cognitive-oriented approach when seeking to modify mood and emotional experiences, and also that obtaining information concerning particular strategies an individual uses for their affect regulation is informative for predicting well-being. From a theoretical standpoint, the study results have shown that Active Mood Management is the strongest of ARI subscales, in terms not just of the previously discussed factorial validity and internal consistency, but also concurrent validity: understanding and forecasting affective outcomes for individuals.

In the context of predicting PWB, some additional links were suggested by the data. Specifically, it was indicated that higher levels of the personality traits A, E and C predicted increased DERS Awareness. This was also identified in the model for PA, where greater emotional awareness was predicted by higher scores on E and C. As discussed previously, these are relatively novel findings in the affect regulation literature, which has given only a small amount of attention to associations with personality traits for example. The pathways are interpretable however, particularly in relation to the diligent, efficient, and organised nature of individuals high on C (Costa & McCrae, 1992), which plausibly extends to paying attention to emotional experiences as part of their thorough and goal-oriented approach.

Chamorro-Premuzic et al. (2007) discussed a similar interpretation of identified links between C and trait Emotional Intelligence. In terms of the pathway from A to higher Emotional Intelligence, there is some existing affect regulation research to shed light on this association. Studies have found individuals who are higher on this trait report exerting greater efforts at regulating their emotional experiences than others (Haas et al., 2007; Tobin et al., 2000). This may be due to their wish to keep these contained so they do not interfere with their interpersonal tendencies of altruism and desire to help others. It is interpretable that these individuals would also closely monitor their emotional states, as exemplified in these high scores on emotional awareness, in order to then keep these well regulated. The pathway from E to greater emotional awareness is more difficult to interpret. Chamorro-Premuzic et al. reported a strong significant correlation between E and trait Emotional Intelligence in their work, which captured the ability to identify and manage emotional states. The current study’s finding of a relationship between this
personality trait and skills in emotional awareness, or higher levels of attention directed toward one’s emotions, are somewhat consistent with this research. It may be that awareness of emotional experiences is one of the positive consequences of the active, talkative and social nature of extraverted individuals, who have ample opportunities in an interpersonal context to reflect on their own and others internal states and well-being, in a productive and constructive rather than brooding and ruminative manner.

In this model for PWB, it was also suggested that greater use of the beneficial Active Mood Management strategies was predicted by: lower levels of N higher levels of C; and greater DERS Emotional Awareness. The personality traits N and C have been consistently linked in this particular way with Active Mood Management strategy use throughout this Study, including in the simplified models for Distress and NA, and the model for SWL. These associations are readily interpretable in light of established personality literature, particularly in relation to the self-disciplined, organised nature of individuals high on C for whom the active problem-solving and cognitive oriented strategies comprising Active Mood Management would likely have broad appeal. It is possible that individuals with lower levels of N are more able to readily employ the Active Mood Management strategies as they are less overwhelmed by strong negative emotional states, and are thus more able to focus on these effective problem-solving strategies. This is consistent with Costa and McCrae’s (1992) account of this trait.

The addition of a path from Emotional Awareness to Active Mood Management is also interpretable, in that a greater level of attention paid to one’s emotional experiences would be expected to facilitate engagement in the active and cognitive-oriented strategies for regulating this affect. It seems reasonable that a moderate level of emotional awareness would in fact be required for use of these particular strategies, which are heavily focused on the affect state itself and what may be required to repair this state. The idea that greater awareness of emotional experiences is beneficial for well-being is at the core of psychological interventions, such as Acceptance and Commitment Therapy and Mindfulness-based approaches (Blackledge & Hayes, 2001; Hayes & Feldman, 2004; Hayes et al., 1999; Segal et al., 2002). The present study found support for the theoretical underpinnings of these therapeutic approaches, and illuminated a mechanism that may be implicated in their
Effectiveness: higher levels of DERS Emotional Awareness were linked with greater use of the Active affect regulation strategies, which have demonstrated positive well-being benefits in this research.

7.4.7 Aim 3: Summary of findings from the regressions and SEM

The regression and SEM analyses paint a coherent picture concerning the prediction of languishing and flourishing from a set of affect regulation and personality variables. The results support the notion that personality is of greatest relevance in determining affective outcomes. For example, N was the strongest predictor of all outcome variables, across both regressions and SEM, with the exception of Distress, where it was the second highest predictor. In addition, C was among the strongest predictors in the regressions and SEM for Distress, PA, SWL and PWB. The personality trait A was a significant unique contributor to the regression for NA, and E demonstrated predictive variance in the models for PA, SWL and PWB. The trait O was among the strongest contributors in the regression for PWB, whereas in the SEM model, the data highlighted that A was relevant. In sum, all FFM personality traits exerted strong effects in predicting at least one of the affective outcomes (Costa & McCrae, 1992).

However, given that personality is generally considered stable and enduring across the life span (Costa, Herbst, & McCrae, 2000; McAdams, 2002; McAdams & Olson, 2010), having this information concerning links between personality and outcomes does not provide much leverage when seeking to improve a given individual’s well-being. A trait profile is relatively fixed and unchanging, rather than fluid and malleable, particularly from midlife onwards (Costa et al., 2000). This profile would be informative in highlighting the mechanisms implicated in the individual’s well-being status, but it is contended here, less illuminating than data concerning the particular strategies adopted in an attempt to regulate moods and emotions. It is this information that is captured in the ARI, and the present study found evidence of direct pathways between strategies used and affective outcomes. These pathways were weaker and less consistent than the personality predictors, but they were nevertheless unique and significant predictors of a selection of outcomes under investigation.
The most consistent strategy predictor was Active Mood Management. Greater use of these active and cognitive strategies predicted more SWL in the regression and SEM, and more PWB in the SEM. This strategy variable was also examined in the simplified SEM for Distress and NA, as it was marred by suppression in the full model. Overall however, the results showed that Active strategies were relevant to affective outcomes and their beneficial effects were particularly evident in relation to the flourishing DVs. The strategy variable, Seeking Pleasure/ Distraction, had a slightly smaller but still significant impact in the models. Greater use of these strategies predicted greater PA using regression and SEM and greater SWL in the SEM. These results highlight the relevance of particular affect regulation strategies to well-being, and point to possible entry points for behaviour change and better affective outcomes.

In addition, the affect regulation disposition predictors were found important across the regressions and SEM, and exerted strong influence as predictors of both languishing and flourishing outcomes. They exerted effects of a comparable size to personality indicators, and were stronger predictors overall than the particular strategies individuals reported using. The variables found to be most relevant included: perceived control over affect, Emotional Clarity, Acceptance and Awareness. These were among the highest predictors of all outcome variables. It is contended however that these variables bear resemblance to personality phenomena, in that they are descriptive in nature and provide somewhat less leverage for modifying outcomes than specific behavioural and cognitive affect regulation strategies for example. That is, it is proposed here that there is a continuum of ‘fixedness’ versus ‘plasticity’ from personality through affect regulation dispositions to affect regulation strategies.

Findings from the SEM showed additional relationships of interest. Personality scales were consistent predictors of affect regulation dispositions. Further, both these sets of variables were significant predictors of the particular regulation strategies individuals reported using. It is acknowledged that conclusions about causal direction cannot be drawn from the the present cross-sectional design, but this particular pathway of association (personality – affect regulation disposition – affect regulation strategy use → outcome) was hypothesised (8) and was the operational framework driving some aspects of the investigation (see Figure 1).
Within the confines of the methodology that was used, there was some evidence that these variables had cumulative or consecutive effects as they interacted and impacted upon affective outcomes.

7.4.8 Aim 5: Is affect regulation meaningful for outcomes above and beyond personality variables?

Although the personality variables were the strongest predictors of outcomes in all the regression models (see Table 16 to Table 20), various affect regulation variables, including all DERS dispositions and some ARI strategies, were shown to significantly contribute to the prediction of all five affective outcomes examined in this study. In particular, the ARI variables were unique predictors over and above personality in the models for NA, PA and SWL. The DERS variables were unique contributors to the predictive models for all five dependent variables examined. These findings are discussed further in 8.2.2.

7.4.9 Aim 6: Is the relationship between strategies and affective outcomes moderated by Gender or level of N?

Further to the standard regression models, a set of interaction terms were tested using multiple regression, in order to assess two particular moderators of the relationship between affect regulation strategy use and affective outcomes. This investigation formed Aim 6 of this study and tested Hypotheses 9 and 10. Specifically, given the known powerful influence of N on well-being (Costa & McCrae, 1980, 1992; DeNeve & Cooper, 1998; Gonzalez Gutierraz et al., 2005; Hayes & Joseph, 2003; McCrae & Costa, 1991; Vitterso, 2001; Watson & Clark, 1992), it was of interest whether this personality dimension moderated the effects of strategy use on outcome variables. That is, this analysis tested whether strategies represented in the ARI scales, Active Mood Management, Passive Mood Management and Seeking Pleasure/Distraction were more or less effective according to participant scores for N. It was specifically hypothesised that the three strategy variables would be more highly predictive of outcomes when level of N was low and thus, not exerting the strong influence on well-being (Hypothesis 9). In addition, given the gender differences that have been identified in relation to affect regulation processes (Baker & Berenbaum, 2007; Gross & John, 2003; Nolen-Hoeksema, 1987, 1991; Nolen-Hoeksema & Corte, 2004; Nolen-Hoeksema et al., 1999; Roberts, Gilboa & Gotlib,
1998; Thayer et al., 1994; Thomsen et al., 2005), it was predicted that Gender would moderate the association between affect regulation strategies and affective outcomes (Hypothesis 10). These models revealed a selection of small interaction effects, predominantly in relation to Gender acting as a moderator.

**Moderating role of Neuroticism and testing of Hypothesis 9**

Results from the standard regression models reinforced the well-established influence of personality on outcomes related to mood and well-being. Of the FFM of personality (Costa & McCrae, 1992), N accounted for the greatest portion of unique variance in all but one of the models tested. To further probe the simultaneous impact of N and affect regulation strategies on affective outcomes, interaction models tested the hypothesis: does level of N moderate the association between strategy use and outcomes, so that ARI strategies are more strongly related to affective outcomes when level of N is low?

Results from these analyses demonstrated no evidence of an interaction between the affect regulation strategy scale Active Mood Management and N in the prediction of the five outcome variable models tested. That is, the impact of using these particular strategies on affective outcomes did not vary according to level of N. However, the results did show minor interaction effects for Passive Mood Management in the prediction of Distress, and for Seeking Pleasure/Distraction in the prediction of PA. Specifically, although only a small effect, the result for Passive Mood Management showed contrary to Hypothesis 9, that there was no apparent difference in Distress according to use of these strategies for individuals low on N. For individuals medium to high on N however, greater use of these strategies was associated with greater Distress. This finding is readily interpretable. Individuals reporting higher levels of N would likely experience a greater propensity for Generalised Psychological Distress, as measured in this study. The interaction result further suggests that the use of ineffective Passive strategies exacerbated Distress levels of these individuals in particular.

Chung, Dennis, Easthope, Werrett, and Farmer (2005) investigated the interactive effects of personality factors and coping strategies in predicting physical and mental well-being outcomes following a traumatic event. In particular, the authors expected that personality would interact with coping strategies in maintaining
or generating Post Traumatic Stress Disorder reactions and general health problems. In a similar way to the present study, their results indicated that in addition to the direct effects of N on PTSD and general health problems, there was also evidence of interaction. For individuals showing a tendency toward N, use of some emotion-focused strategies was associated with greater PTSD reactions and general health problems. Chung et al. (2005) surmised that an interactive, rather than independent or mediational model was best for conceptualising the complex roles that personality and coping play in predicting health and well-being outcomes.

The present results also showed a small interaction effect for N and Seeking Pleasure/Distraction, in the prediction of PA. Again contrary to Hypothesis 9, it was found that the impact of using these particular strategies on PA was more pronounced for individuals high in N. Although the strategies were associated with greater PA at all levels of N, this change in affect was more marked for those scoring higher on this personality dimension. This finding can also be readily interpreted. Individuals with high scores on N would be expected to report lower PA (e.g., DeNeve & Cooper, 1998; McCrae & Costa, 1991). Use of the adaptive regulation strategies comprising Seeking Pleasure/Distraction was of benefit to these individuals, resulting in marked improvement to well-being, vis a vis level of positive emotional experience. This finding has practical relevance; it suggests that encouraging high N individuals to employ pleasurable and distracting strategies for their affect regulation may result in positive emotional repercussions.

Acknowledging that the interaction effects were modestly sized, the results suggested that affect regulation strategy use creates larger hedonic shifts for individuals scoring higher, not lower, on N. This was in contrast to Hypothesis 9, which predicted that lower N would allow for the impact of affect regulation strategy use to be more evident. However, the specific findings proposed that for high N individuals, passivity in response to a bad mood contributed to greater Distress. Further, use of pleasurable and distracting strategies in response to a bad mood heightened the positive emotional experience of these individuals.

**Moderating role of Gender and testing of Hypothesis 10**

This interaction analysis tested whether Gender altered the impact of affect regulation strategy use on affective outcomes. There is much literature directed
toward gender differences in both well-being and affect regulation processes (see 3.2.1), however fewer studies have examined the interactive associations between these variables. That is, only a small number of researchers have questioned whether gender moderates the effectiveness or otherwise of specific affect regulation strategy use (Austenfeld & Stanton, 2004).

The present study sought to further probe this area with the series of interaction regression models. Overall support was found for Hypothesis 10: that Gender would moderate the association between regulation strategies and affective outcomes. Significant interaction effects were apparent for Gender and use of the strategies comprising Active Mood Management, as well as Seeking Pleasure/Distraction. Interestingly, Gender did not moderate the impact of Passive Mood Management on any of the five affective outcome variables. This result is in contrast with explanations of gender differences in depression, such as RST (Nolen-Hoeksema, 1987, 1991), which posits that women respond to moods with passivity, hence their greater incidence of depression. This theory does not however include specific reference to Gender acting as a moderator of the link between passivity and outcomes, but rather that women show a tendency to employ an affect regulation approach that has demonstrated links with reduced well-being and psychological ill-health. Addressed in 7.4.12, the present study did find some support for RST as the females in the sample scored higher on Passive Mood Management, and these strategies were associated with the outcome variables in expected ways: greater Distress and NA; lower PWB.

There was evidence to suggest that Gender was a moderator of the association between Active Mood Management and three of the outcome indicators: Distress; PA; and PWB. While each of these interaction effects were of modest size, the findings demonstrated a pattern across the three models. In particular, they displayed that the impact of Active strategies on outcomes was more pronounced for the females. The strongest effect was found in the model for Distress. This suggested that in line with expectations, use of the strategies comprising Active Mood Management predicted lower scores for Distress, but for females only. Contrary to expectations, there was no difference in Distress according to use of these strategies for males. Interestingly, the interaction term combining Gender and Active Mood Management was the strongest
predictor of Distress in this model, outweighing the individual effects of these two variables.

This was a curious and unexpected finding. The well-being benefits of Active and cognitive regulation strategies, such as decreased Distress, have not been previously limited to females. Further, the strategies comprising this particular scale could be considered gender-neutral, as they pertain to such activities as controlling one’s thoughts, thinking positively, putting feelings in perspective, problem-solving and relaxation and stress management techniques. It was not anticipated that these strategies would show beneficial effects for females only. One way this moderation effect may be interpreted is in relation to the greater Distress of male participants. It is possible that their significantly higher Distress, in comparison to the females, warranted the use of problem-solving, positive thinking and reappraisal strategies ineffectual or fruitless. These strategies may have served to maintain the status quo with regards to the Distress of the males, not worsening this but also not providing reduction of the negative state. In this way, it is proposed that the interaction effect is interpretable in light of the high Distress of males in this sample, for whom the use of oft-considered beneficial affect regulation strategies had no positive impact. A similar idea was raised by Carver and Connor-Smith (2010), who discussed that the presence of intense emotional states can interfere with engagement coping, such as problem-focused coping, that requires careful and deliberate planning. They further state that the experience of NA warrants positive thinking and cognitive restructuring difficult. These sorts of coping or affect regulation strategies are precisely those included in the Active Mood Management scale under discussion.

As outlined, there was a similar interaction finding revealed for PA. Specifically, the finding suggested that while Active strategies predicted greater levels of PA for both males and females, this effect was more pronounced for females. The women in the sample benefited to a slightly greater degree from use of Active strategies, in terms of positive emotional experience, than did males. This was a surprising finding and is interesting in relation to the lack of significant difference in level of reported PA between male and female participants.

The PA interaction findings were comparable in size and form with the effect identified for PWB. This model showed that, as expected, greater use of Active Mood Management strategies was associated with higher PWB for both males and females.
This effect was again more marked for females however, who displayed a slightly sharper rise in well-being with use of these strategies. It is also noteworthy that a significant Gender difference was identified in overall PWB, with females scoring higher than males on this measure. The present interaction effect may shed some light on this significant difference in mean scores. The interaction finding displays that the women benefited more in terms of well-being from their Active affect regulation strategy use, possibly contributing to the discrepancy in outcome scores between males and females.

Taken together, the interaction models for Active Mood Management suggest that the women in this sample were more likely to benefit from using the regulation strategies represented in this scale, in terms of reduced Distress and heightened PA and PWB. While these effects were small and somewhat unexpected, one possible interpretation is in relation to the nature of the sample (e.g., males exhibited greater overall Distress). In the context of the project methodology and the nature of the sample therefore, the present study revealed use of Active Mood Management strategies for improving affect to be slightly more likely to have this desired effect for women rather than men.

Gender was also found to moderate the association between the Seeking Pleasure/Distraction strategies and affective outcomes in three of the five models tested: Distress; SWL; and PWB. These interaction effects were small, but took a similar form to models for Active Mood Management. That is, the overall finding was that females in the sample benefited to a greater degree from use of the pleasurable and distracting strategies than did males.

There was a clear interaction effect between Gender and Seeking Pleasure/Distraction in the prediction of Distress. The findings showed that use of these strategies was associated with a reduction in Distress for females. For males however, who also reported significantly higher mean levels of Distress, as previously discussed, use of these regulation strategies predicted a rise in overall Distress. This was an unexpected finding and is difficult to interpret. It appears that contrary to expectations, use of the pleasurable and distracting strategies was not of benefit to the males, but rather, served to increase their already high levels of Distress. In conjunction with the model findings for Active Mood Management, whereby use of these strategies predicted no change in Distress levels for males, it is tentatively
proposed the high Distress reported by males in this sample warranted the use of affect regulation strategies ineffectual in improving their symptoms of anxiety and depression. It is perhaps the case that when an individual reaches a particular high threshold of Distress, the independent use of affect regulation strategies in an effort to improve this experience can be largely fruitless. Instead, these individuals may have benefited from external assistance, such as a directed psychological therapy, for the management of symptoms and in order to elucidate optimal treatment strategies. This is a speculative post-hoc proposal however and the small size of the interaction effect under consideration must be considered.

The interaction models for SWL and PWB showed a similar pattern. As expected, use of Seeking Pleasure/Distraction strategies predicted increased SWL and PWB for both males and females. This effect was more pronounced for females in both cases however, demonstrating a slightly more marked rise in their life satisfaction and well-being with use of these strategies. These findings suggest that while use of the pleasurable and distracting affect regulation strategies did not improve the Distress levels of male participants, they did contribute to greater cognitive and psychological well-being for these individuals. Both the SWL and PWB scales capture participants’ global evaluations concerning overall quality of life and living conditions, and sense of broad well-being experiences such as personal growth, positive relations with others and self-acceptance. The current findings propose that while the pleasurable and distracting strategies did not improve the Distress levels of male participants, they were able to enhance their well-being via these positive dimensions of wellness.

**Summary of interaction results and investigation of Aim 6**

The regression models indicated support for Hypothesis 10 (that Gender would moderate the association between ARI strategies and outcomes) but not 9 (that ARI strategies would be more highly predictive of outcomes when level of N was low). That is, evidence was found to suggest Gender but not level of N moderated the link between affect regulation strategy use and affective outcomes. Overall, these results suggested that in the present sample, high N individuals and females benefited to a greater degree in terms of affective outcomes from their particular affect
regulation strategy use. These interaction effects were most evident in relation to Gender.

7.4.10 Aim 7: Are a different set of affect regulation variables relevant to flourishing versus languishing of the individual?

This study aim was in part a reflection of the comprehensive assessment of outcomes that was adopted in Study 2. That is, this approach pursued the contention of Keyes (2005), who stated that mental health and illness exist on separate dimensions and require separate operationalisation and assessment accordingly. The particular terms given by Keyes were adhered to in this study: “flourishing” for positive and “languishing” for negative states. Aim 7 was devised in order to conduct a comprehensive investigation of the impact of affect regulation processes on the individual, by testing whether the variables showed different relationships with these two dimensions of affective experience. This study aim was also devised in light of Larsen’s (2000) contention that different strategies differentially impact experiences of pleasant versus unpleasant affect.

The results of interest in this analysis were those found in the multiple regression models predicting the five affective outcomes (see Table 16 to Table 20). In particular, the focus was which of the ARI and DERS scales emerged as unique predictors of flourishing (i.e., PA, SWL, PWB) but not languishing (Distress, NA) outcomes and vice-versa. It was these affect regulation variables that were revealed to have differential impact on positive and negative affective outcomes, as considered in Research Question 6.

Differences were evident in the significant predictors that emerged for the two types of outcome. Specifically, the ARI scales Active Mood Management and Seeking Pleasure/Distraction and DERS scale Awareness were predictors of flourishing but not languishing. The ARI scale Passive Mood Management and DERS scale Acceptance significantly predicted languishing but not flourishing. These findings in relation to the ARI scales replicate those revealed in Study 1, where it was found that Active Mood Management and Seeking Pleasure/Distraction were positively associated with PA, but not associated with NA. In contrast and as found in the current study, Passive Mood Management was positively related to NA but unrelated to PA. These Study 1 findings were discussed with reference to the two-
dimensional view of affect (Watson et al., 1988; Watson et al., 1999). Comparable results were found here, in that the predictors of Keyes’- based (2005) flourishing and languishing outcomes were indeed different. These results suggested that an increase in positive affective experience may be in part a function of extent of use of Active and Pleasurable affect regulation strategies and level of Emotional Awareness or attention. Furthermore, findings displayed that engagement in Passive Mood Management and the absence of Emotional Acceptance was related to negative affective experience or languishing. This information has practical utility, pointing to potential mechanisms for affecting level of health and wellness.

In the context of assessing the successfulness of mood regulation attempts, Larsen (2000) also discusses affective specificity in strategy use. He contends that different regulation strategies will likely be effective for the regulation of different affective states, such as for anxiety, anger, sadness or boredom. Although the current study did not specifically question participants concerning whether and the manner in which they employed regulation strategies for different mood and emotional experiences, it was found that the affect regulation variables evidenced different relationships with the two types of affective outcome. These findings concur with the discussion by Larsen (2000).

7.4.11 Aim 8: Gender differences in strategies and dispositions: Do males and females show differential styles of responding to mood and emotional experiences?

This aim assessed gender differences in responses to ARI and DERS scales, using one-way between-groups analysis of variance (ANOVA). It was hypothesised that women would report higher scores on ARI Passive Mood Management and men would report higher scores on ARI Seeking Pleasure/Distraction (Hypothesis 11).

However, contrary to study expectations and existing literature (e.g., Baker & Berenbaum, 2007; Cosway et al., 2000; Gross & John, 2003; John & Gross, 2004; Nolen-Hoeksema, 1987, 1991; Nolen-Hoeksema et al., 1999; Roberts et al., 1998; Thayer et al., 1994; Thomsen et al., 2005), only minor gender differences in responses to the ARI affect regulation variables, of modest effect size were evident. In particular, partial support was found for Hypothesis 11, in that women did report greater use of ARI Passive Mood Management. It was also found that females were significantly more likely to use strategies represented in ARI Active Mood
Management. Gender differences were not apparent in responses to ARI Seeking Pleasure/Distraction.

These findings provide some support for the proposal made by Nolen-Hoeksema’s RST (1987, 1991), which states that women respond to negative moods with passivity and rumination (Nolen-Hoeksema, 1987; Nolen-Hoeksema & Corte, 2004), whereas men use distraction or self-medicate with alcohol and drugs (Nolen-Hoeksema & Corte). Indeed, these results showed that women were more likely to endorse passivity in response to a bad mood. However, the males in this sample were not significantly more likely to use distraction for affect regulation. The literature has reported such inconsistencies in findings concerning gender and affect regulation. For example, in a large student sample, Knowles et al. (2005) found that females had higher scores on an adaptive coping scale, which consisted of distraction and problem-solving strategies, and further, did not show a greater tendency to ruminate in response to their negative moods. In a clinical sample, another study (Bagby et al., 1999) found no gender differences in use of rumination or distraction for regulating affect, measured via the RST-associated inventory, the Response Styles Questionnaire (RSQ, Nolen-Hoeksema & Morrow, 1993). Absence of the expected gender difference in affect regulation processes and strategy use has been reported by other authors (Kamholz et al., 2006; Rivers et al., 2007). In sum, there are mixed findings concerning proposed gender differences in the affect regulation process and some of these point to the notion that there may not be as wide a gender gap as previously thought.

In this study, minimal gender differences were also apparent in the affect regulation disposition scales of the DERS (Gratz & Roemer, 2004). The single gender difference identified, again of small magnitude, was in relation to emotional awareness. As anticipated, males reported more difficulties with attending to their emotional experiences. The authors of the DERS identified the same single gender difference in DERS responses in their initial development and validation study. That is, male undergraduates reported significantly greater difficulties with emotional awareness than females.

Other studies that have examined comparable affect regulation disposition variables as those measured by the DERS have generated inconsistent findings. Thayer, Rossy, Ruiz-Padial and Johnsen (2003) found that males in their
undergraduate student sample reported significantly less attention directed toward emotional experiences. Austenfeld and Stanton (2004) also reported this finding but from the alternate standpoint: females in their sample scored significantly higher on Emotional Approach coping, which tapped into a high level of attention directed toward one’s emotional experiences and awareness plus acknowledgement of these. In an adolescent student sample, Neumann et al. (2010) reported that emotional awareness was the only DERS scale in which males indicated significantly greater difficulties compared to females. These authors also identified contrasting results to those of the present study however: female indicated more difficulties with emotional clarity, engaging in goal-directed behaviours when upset, accepting their emotions and accessing effective strategies when upset. Salters-Pedneault et al. (2006) reported similar results: female participants reported greater difficulties engaging in goal-directed behaviours, accessing effective regulation strategies, controlling impulsive behaviour, and greater overall difficulties with emotional processing (captured in the DERS total score). In sum, just as gender effects in affect regulation strategy use are more equivocal than RST would suggest, studies that have explored variables referred to here as affect regulation dispositions are inconsistent.

In sum, only modest gender differences were evident in the two components of affect regulation phenomena examined in this study. In line with Hypothesis 11 and RST (Nolen-Hoeksema, 1987, 1991), females reported greater use of Passive Mood Management strategies. Contrary to expectations, males were not more likely to employ strategies comprising Seeking Pleasure/Distraction. Additionally, while it was found that the males reported less Emotional Awareness, the men and women in this sample responded similarly across all other variables capturing affect regulation dispositions.

7.4.12 Conclusion

Study 2 contributes to the literature in several important ways. The importance of considering specific affect regulation strategies when seeking to predict affective outcomes was identified. These effects were difficult to elucidate using a cross-sectional self-report methodology while jointly considering personality variables, but they were apparent in a selection of regression models and SEM findings. As anticipated, strategies of an active and cognitive nature, and a
pleasurable and distracting nature were associated with positive affective outcomes, or flourishing. Passive regulation strategies were related to negative affective outcomes or languishing, however the impact of this strategy scale was of a smaller magnitude to the other two ARI categories. The associations between personality phenomena and the outcome indicators were consistent with expectations; N dominated the prediction of both flourishing and languishing outcomes. Results showed that C was the second strongest personality predictor of outcomes, a finding which is novel in the personality literature. Relationships were revealed between personality and affect regulation strategy use, and these illuminated additional mechanisms implicated in the development of an individual’s well-being. For example, N predicted use of identified ineffective strategies, whereas C was related to the demonstrated adaptive or effective strategies. The affect regulation dispositions exerted significant effects across the regression and SEM analyses. Higher levels of perceived control over affect was a particularly strong predictor of positive affective outcomes. Greater emotional awareness, clarity and acceptance were also related to increased flourishing. Furthermore, the affect regulation disposition variables showed strong and interpretable associations with strategy use and with personality, and pointed to additional entry points for intervention into a maladaptive regulation style. Some novel findings were noted, particularly in relation to the unique predictive effects of strategies, the relevance of C to outcomes, and the notion that a different set of predictors are relevant for the positive and the negative outcome dimensions. This study raised several questions to be profitably explored in further studies and presented results in support of a new affect regulation measure that can be employed.

**7.4. 13 Summary of Chapter Seven**

This chapter contains all material pertaining to Study 2. A principle endeavour in this study was to present the notion that the affect regulation construct needs to be considered in a comprehensive way, including in relation to particular strategies that are employed and more enduring affect regulation dispositions of the person. Study 2 provided support for this assertion, as both sets of examined affect regulation variables were found relevant to affective outcomes. It is contended that consideration of these components of the affect regulation process facilitates a comprehensive assessment of the impact of an individual’s approach to affect
regulation on level of flourishing versus languishing in everyday life. It is hoped that the information retrieved from such an assessment can then facilitate better outcomes.
CHAPTER EIGHT: GENERAL DISCUSSION

This final chapter provides an overview and summary of the research reported in this thesis. Key findings from Study 1 and 2 are integrated to offer conclusions concerning the affect regulation process and to make explicit the project’s contribution to the literature. Limitations of Study 1 and 2 and avenues for future affect regulation studies are discussed and an overall project conclusion is presented.

8.1 Performance of the recently developed ARI

Data drawn from the single and test-retest administrations of the ARI in Study 1 displayed a sound psychometric profile for this developing scale. In particular, there was evidence for the construct validity of the ARI, as indicated by literature-consistent associations between strategies and state affect revealed in both administrations of the measure. The strategies were differentially related to PA and NA. Active Mood Management and Seeking Pleasure/Distraction strategies were related to greater PA, but unrelated to NA. In contrast, Passive Mood Management strategies were significantly related to greater NA but showed no association with PA. These findings were consistent with the established two-dimensional mood model (Watson et al., 1988; Watson et al., 1999) and the notion that different strategies exert varying effects on different mood states (Larsen, 2000).

The three subscales demonstrated only moderate internal consistency in the two samples, ranging from .42 to .62. These low results were interpreted in light of the scales’ short length (5 items each) and the heterogeneity of items (see John & Benet-Martinez, 2000). Moreover, test-retest administration results found support for the temporal stability of the ARI and scale correlations over the 4 – 5 week interval ranged from .63 to .70. It was proposed that this was a more appropriate measure of reliability for this scale, given its length and broad content. In sum, findings suggested the ARI captures tendencies toward use of particular affect regulation strategies, across time and contexts.

Potential applications of this scale were highlighted in the prospective investigation of the impact of strategy use recorded at Time 1 on affect at Time 2. It was found that participants who reported more frequent use of Active Mood Management at Time 1 reported higher PA 4 – 5 weeks later at Time 2. The same
pattern was revealed for strategies comprising Seeking Pleasure/Distraction: greater use of these strategies at Time 1 predicted greater PA at Time 2. The prospective effects of Time 1 Active Mood Management on Time 2 PA remained when Time 1 PA was statistically controlled. These results propose this scale could be employed to predict affective outcomes for the individual, based on their reported style of regulating affective experiences. For example, it could be anticipated that individuals who more regularly respond to unpleasant moods with such strategies as those captured in Active Mood Management and Seeking Pleasure/Distraction will experience higher levels of subjective well-being than individuals who do not employ these adaptive regulation strategies.

The ARI was applied in a larger sample in Study 2. The measure assessed the impact of strategy use on affective outcomes, and the interplay between strategies, dispositions and personality in the prediction of these outcomes. The Study 2 sample size also allowed factor analytic investigations of the measure to be undertaken.

The internal reliability results were fractionally higher compared to Study 1, and ranged from .51 to .67 for the three subscales. An EFA supported the previously identified three-dimensional scale structure (Pirzas, 2006) and these findings were consistent with the division of strategies into the Active Mood Management, Passive Mood Management and Seeking Pleasure/Distraction scales. One ARI item loaded contrary to the 2006 analysis, however all other item loadings were consistent. It was concluded that the three-dimensional latent structure of the ARI was fairly robust in this second independent sample.

The underlying structure of this instrument was further tested using CFA. This technique allowed for more thorough investigation of the relationship between the measured variables or items and the anticipated underlying latent construct (Cunningham, 2008). There are recognised limitations to this type of analysis however, including that a retrieved solution can be less accurate in large samples and those affected by multivariate non-normality (Cunningham). Both of these limitations were relevant to the present data and therefore require due consideration.

The CFA results suggested two of the subscales (Active Mood Management and Passive Mood Management) would be better represented by four rather than the hypothesised five items. The Seeking Pleasure/Distraction scale was an acceptable
statistical fit with all five items. When these three scales were combined in an analysis to assess the overall fit of the three-factor structure however, the results suggested this was a poor solution that included unacceptable levels of unexplained variance. The solution was not improved when a higher-order “Total Affect Regulation Strategy Use” construct was added, which indicated it was not appropriate to sum items from this scale and retrieve a total usage score. The CFA findings raised some questions concerning latent structure of the ARI, which would benefit from further testing in different samples.

The pattern of association between ARI scales and other measured variables in Study 2 supports the construct validity of this developing inventory. Specifically, the scales correlated with the outcome variables (Distress, NA, PA, SWL and PWB) in anticipated and literature-consistent ways. The relationships between ARI scales and those representing DERS dispositions and API personality were also as expected. Many of the hypothesised gender differences in strategy use were identified and those that were not consistent with expectations, were interpretable in relation to the nature of the current sample. Overall, the ARI was useful in Study 2 and facilitated the investigation of the impact of affect regulation strategy use on affective outcomes.

8.2 Predicting languishing and flourishing from an affect regulation perspective

8.2.1 Examining the individual and combined impact of specific affect regulation strategies and broader affect regulation dispositions on affective outcomes

The regression and SEM-based analyses in Study 2 were driven by two fundamental questions. First, it was an aim to identify key predictors of languishing and flourishing outcomes from an affect regulation perspective. Second, these analyses sought to compare the predictive power of specific affect regulation strategies versus broader affect regulation dispositions in determining outcomes. The overarching aim was an integrative one: to bring together in a single series of empirical investigations two critical affect regulation variables (dispositions and strategies), investigating their ability to predict a comprehensive range of affective outcomes – in the context of a known predictor of affective outcomes (personality). Previous researchers have suggested knowledge concerning particular strategies used by an individual has little worth in the absence of broader contextual information, such as that captured in the measure of dispositions, the DERS (Gratz & Roemer,
The present analysis responded to this proposition and sought to uncover the impact of individual strategies.

Findings from the regressions indicated unsurprisingly, that level of N was a key determinant of all five outcome variables. It was the strongest predictor of NA, PA, SWL and PWB and the second highest predictor of Distress. A higher score for N was associated with worse outcomes for the individual: more Distress and NA; and less PA, SWL and PWB. These findings converged with the established predictive power of this trait (Costa & McCrae, 1980; 1992; DeNeve & Cooper, 1998; Gonzalez Gutierrez et al., 2005; Hayes & Joseph, 2003; McCrae & Costa, 1991; Vitterso, 2001; Watson & Clark, 1992), and confirm the design assumption here that personality is a critical contextual variable in the investigation of affect regulation’s impact on affective outcomes.

Regression results further outlined the affect regulation disposition variable, representing perceived control over affect (DERS Strategies), as highly relevant to outcomes. This variable exerted unique predictive effects in both languishing models (Distress and NA) and two flourishing models (SWL and PWB). Greater perceived control predicted better outcomes: less Distress and NA; more SWL and PWB. This result concurs with existing studies that have found perceived control over affect or negative mood regulation expectancies to be highly associated with a range of well-being outcomes (Catanzaro & Mearns, 1990, 1999; Catanzaro et al., 2000; Drwal, 2008; Hemenover et al., 2008; Kassel et al., 2006; Kirsch et al., 1990; Mearns et al., 2009).

Conscientiousness was among the strongest predictors in the regression models for four of five affective outcomes. A tendency toward this trait predicted less Distress and more PA, SWL and PWB. These findings supported the relevance of considering an individual’s position along this personality dimension when seeking to understand their experience of well-being (Chamorro-Premuzic et al., 2007; DeNeve & Cooper, 1998; Furnham & Cheng, 1997; Hayes & Joseph, 2003; Joshanloo & Rastegar, 2007; McCrae and Costa, 1991). Furthermore, E was found to be relevant in the regression models, but for flourishing outcome variables only. In particular, a higher score for E predicted higher levels of PA, SWL and PWB. These findings were also consistent with well-established literature concerning the positive emotionality that accompanies this trait (Costa & McCrae, 1980; Furnham & Cheng,
Emotional Clarity and Emotional Acceptance, both disposition variables, were among the strongest predictors of languishing outcomes. The regressions indicated that greater clarity and acceptance were associated with lower Distress and NA. These findings concur with what has been discussed in the EI (Mayer & Salovey, 1995; Salovey et al., 2002; Salovey et al., 2009) and Mindfulness, Acceptance and Commitment Therapy literatures (Blackledge & Hayes, 2001; Eifert et al., 2009; Forsyth & Eifert, 2007; Hayes et al., 2006) in particular. Indeed, numerous authors have argued that a higher level of clarity and acceptance concerning emotional experiences is related to better well-being outcomes (Gratz & Roemer, 2008; Lischetzke et al., 2005; Low et al., 2008; Mennin et al., 2009; Roemer et al., 2009; Saarni, 1999; Tull & Gratz, 2008; Tull & Roemer, 2007; Salters et al., 2006; Twohig et al., 2006; Twohig et al., 2010).

Importantly, there was some evidence that particular affect regulation strategies had a unique predictive effect, but only in relation to flourishing outcomes. In particular, greater use of Seeking Pleasure/Distraction strategies predicted higher PA. More frequent use of Active Mood Management strategies predicted higher SWL. These findings correspond with literature concerning the beneficial effects of active and distracting responses to unpleasant affect (Aldao et al., 2010; Augustine & Hemenover, 2009; Carver & Connor-Smith, 2010; Fichman et al., 1999; Joorman et al., 2007; Larsen & Prizmic, 2004; McCrae & Costa, 1986; McWilliams et al., 2003; Nolen-Hoeksema, 1987; Nolen-Hoeksema & Morrow, 1991, 1993; Thayer et al., 1994; Totterdell & Parkinson, 1999) and were promising with regard to identifying an impact of specific affect regulation strategies on well-being. This is especially the case in light of other powerful predictors included in these models, such as personality.

Similar findings were revealed using SEM. Neuroticism emerged as a dominant predictor of both languishing and flourishing. Level of C was again deemed important in the prediction of all five outcomes, and E was relevant in the model for PA and PWB. The disposition variables were optimally represented by a higher-order “Affect Regulation Dispositions” construct in the models for Distress and NA, whereby greater difficulties in this area were related to higher levels of these negative
states. This higher-order construct was not suggested for the flourishing models however; instead, just the Emotional Awareness scale was found to be an important predictor. A greater level of awareness predicted higher PA and PWB. Finally, affect regulation strategies were relevant in each of the flourishing models. More frequent use of Seeking Pleasure/Distraction strategies predicted higher PA, and greater engagement in Active Mood Management strategies predicted higher SWL and PWB. The Active Mood Management scale was implicated in a suppression effect in the languishing models, which made it difficult to identify the particular impact of strategies. When tested in the simplified models however, greater use of these strategies predicted lower scores on Distress and NA.

Based on the regression and SEM analyses in this study, it was evident that a different set of predictors were relevant for the different outcome variables. This finding was a common theme in the project, and supports the differentiation in measurement of positive and negative affective outcomes. A selection of variables emerged as strong contributors in the prediction of most if not all of the outcomes however. These were N, C and perceived control over affect. These predictors were relevant in each outcome model and impacted both languishing and flourishing.

Furthermore, the regression and SEM results were informative with regards to comparing the predictive power of individual strategies and affect regulation dispositions. While the disposition variables, including perceived control over affect and clarity, awareness and acceptance of emotional experiences were more prominent in the models, individual strategies also exerted predictive effects. Specifically, Active Mood Management and Seeking Pleasure/Distraction strategies were important positive predictors of flourishing, and Active Mood Management negatively impacted Distress. That is, particular affect regulation strategies deemed to be effective or ineffective for the regulation of moods and emotional experiences provide clear leverage for creating better well-being outcomes.

8.2.2 Assessing the predictive power of strategies and dispositions when personality competes for explanatory variance

The affect regulation construct is a relatively recent addition to psychology literature (Gross, 1998; Koole, 2009; Larsen, 2000; Rottenberg & Gross, 2007), especially in comparison to established concepts like personality traits. In light of
this, it is necessary to test the explanatory worth of the construct in comparison to already existing theories. Previous authors have advocated this idea, proposing it is the responsibility of theorists of new individual difference constructs to demonstrate how these relate to extant knowledge in the field (Petrides et al., 2007). In the determination of affective outcomes in particular, personality variables are consistently shown to be dominant. In Study 2, therefore, a primary question was whether affect regulation strategies and dispositions exerted unique predictive effects, accounting for explanatory variance over and above that captured by traits. The predictive power of affect regulation variables is of further interest when it is acknowledged that recent evidence suggests personality may be less stable than previously thought (Lee & Hotopf, 2005), particularly among younger people. It may be the case that the affect regulation construct offers information about affective outcomes in these populations in particular.

Similar questions have been asked by researchers in the EI field. Chamorro-Premuzic et al. (2007) noted conceptual and empirical overlap between trait EI and dimensions of personality including E, Emotional Stability and A. These authors tested whether EI predicted unique variance in happiness over and above the Big Five personality factors. Their results indeed emphasised the independent contribution of trait EI in determining happiness, and suggested that some personality dimensions traditionally associated with happiness may be so because they are themselves associated with individual differences in trait EI. In other words, there was evidence that trait EI moderated these relationships.

Petrides et al. (2007) used factor analysis to locate the trait EI construct in personality factor space. These authors challenged the idea that trait EI was a basic reformulation of major personality dimensions. They found evidence to dispel this myth, as they revealed an isolated, distinct trait EI factor accounting for unique variance in regression models assessing life satisfaction and other indicators of positive functioning, over and above personality. In an earlier publication, Maddocks, Cooper, and Sparrow (2005) similarly discussed the need for distinction between EI and personality. These authors contended that EI cannot be reduced to a personality trait, but rather, it is oriented toward management of one’s traits in an effort to be a personally and interpersonally effective individual.
In Study 2, it was found as expected, that personality was a consistently strong predictor of languishing and flourishing affective outcomes. This result was retrieved from both regression and SEM analyses. Level of N and C were the two dominant traits in particular and were found to be among the strongest predictors in each outcome model. However, in addition to the powerful influence of personality, outcomes were also predicted by affect regulation variables, including specific strategies and the dispositions. In terms of regulation dispositions, unique predictors were perceived control over affect, and level of emotional clarity, acceptance and awareness. In terms of regulation strategies, Active Mood Management and Seeking Pleasure/Distraction emerged as significant contributors in a number of the models.

These findings suggest the affect regulation construct (broadly defined) captures variance in outcomes that is not accounted for by the Big Five personality taxonomy. It is further contended there are marked differences between this construct and models of personality, that render affect regulation of unique value to the literature. For example, as discussed by writers in EI (e.g., Maddocks et al., 2005), information concerning personality is largely descriptive. Given that tendencies toward particular traits are considered stable in life (Costa et al., 2000; McAdams, 2002; McAdams & Olson, 2010), knowledge of personality composition is a static type of data. In contrast, information captured by the affect regulation construct, particularly in relation to strategy use, is a dynamic and developable type of data that gives leverage for changing an individual’s well-being status. In line with the discussion concerning EI therefore (e.g., Chamorro-Premuzic et al., 2007; Petrides et al., 2007), it is argued that while there may be overlap between affect regulation and personality, the former remains a unique predictor of outcomes for the individual. It is acknowledged that the influence of affect regulation variables was small compared to personality. However, as suggested by Shulman and Hemenover (2006), when a new construct predicts even a small amount of explanatory variance independent of known variables, this can represent a substantial advance in understanding.

8.2.3 Examining the interplay between affect regulation and personality variables in the prediction of languishing and flourishing outcomes

In the prediction of affective outcomes, associations between the affect regulation and personality variables were anticipated. There was much evidence to
support this expectation. According to Ng and Diener (2009), there is a large body of correlational research substantiating the conclusion that there are personality differences in emotion regulation processes. Numerous studies have reported these links, including for example: Carver and Connor-Smith (2010), Cosway et al. (2000) and DeLongis and Holtzman (2005) who discuss strong associations between personality traits and use of specific coping strategies; John and Gross (2004) who presented findings concerning N and E and use of two affect regulation strategies, suppression and reappraisal; Kokkonen and Pulkinnen (2001) who similarly reported links between N and E and aspects of emotion regulation including emotional acceptance, clarity and repair; and Lischetzke and Eid (2006) who found Extraverts and Introverts differed in ‘mood regulation abilities’. These findings are not surprising given that general ways of responding to moods and emotions are among key descriptive features of personality traits, particularly for N (see Costa & McCrae, 1992).

In the present Study 2 however, investigation of this interplay between affect regulation and personality in the prediction of languishing outcomes was difficult. In particular, a suppression effect marred the use of a full variable SEM model in relation to these outcomes: Distress and NA. As a result, the variables were investigated in an isolated and simplified fashion, with only limited examination of their interplay. Some relationships of interest were however revealed. In the context of predicting Distress and NA, it was found that N negatively and C positively predicted use of the beneficial Active Mood Management strategies. It was also found that greater difficulties in relation to the Affect Regulation Dispositions predicted less frequent use of the adaptive Active Mood Management strategies. Finally, in these languishing outcome models, SEM results showed that higher scores for N and lower scores for C predicted greater difficulties with the Affect Regulation Dispositions.

It was possible to investigate all variables simultaneously in the prediction of flourishing. The interplay between the variables was slightly different for each of the three outcomes. In the model for PA, it was found that higher scores for E and C predicted a higher level of emotional awareness. Furthermore, higher levels of E and emotional awareness predicted more frequent use of the effective Seeking Pleasure/Distraction strategies. In the model for SWL, N negatively and C positively
predicted use of Active Mood Management strategies. Higher scores for N also predicted less frequent use of Seeking Pleasure/Distraction strategies. An association between ARI strategies was also revealed in this model. It was found that more frequent use of Seeking Pleasure/Distraction strategies was related to more frequent use of Active Mood Management strategies. This result was interpreted in light of the beneficial nature of these particular regulation strategies, and raised the idea that individuals sought relief and distraction from unpleasant affect before then engaging in problem-solving and stress management type strategies comprised in Active Mood Management. Finally, in the model for PWB, higher scores for A, C and E predicted greater emotional awareness. It was further found that lower N and higher C and emotional awareness predicted more frequent use of Active Mood Management strategies.

In sum, Study 2 identified relationships between the two aspects of the affect regulation process (strategies and dispositions) and personality traits in the prediction of both languishing and flourishing. The nature of these relationships was consistent with prior research (e.g., Carver & Connor-Smith, 2010; Cosway et al., 2000; DeLongis & Holtzman, 2005; Vollrath & Torgersen, 2000). These findings elucidate some of the ways in which affective outcomes can be influenced, from an affect regulation perspective. They suggest that personality directs the individual to a particular style of processing emotional experiences (represented here in the affect regulation disposition variables), and further, toward use of particular strategies for regulating affect. While these findings were anticipated in light of the well-explicated personality construct, few studies have tested the specific combination of associations examined in Study 2. These analyses uncovered a range of possible pathways from personality to affect regulation tendencies and a resulting greater or lesser experience of well-being.

8.3 Improving well-being: Intervention targets identified in this project

A principal motivation for testing affect regulation predictors of affective outcomes was to identify intervention targets for enhancing these outcomes. A range of affect regulation-related intervention targets were revealed in Study 2, and it is hoped these may be of clinical value.
8.3.1 Reducing distress and negative affect

Based on regression findings, Study 2 showed four key affect regulation mechanisms implicated in reduced Distress: greater perceived control over affect or higher mood regulation expectancies; greater emotional clarity; greater emotional acceptance; and ability to persist with goal-directed activity when upset. These four scales were combined in the SEM analysis to form an “Affect Regulation Dispositions” construct, which was a positive predictor of Distress. That is, as indicated in the regression, greater difficulties in these areas was related to greater Distress. While the ARI strategy scales did not predict Distress over and above the other independent variables, the correlations between ARI scales and Distress were informative. They suggest that greater use of Active Mood Management and Seeking Pleasure/Distraction strategies was related to lower Distress. Furthermore, less frequent use of Passive Mood Management strategies was related to lower Distress.

The findings were similar for NA. The regression models identified five affect regulation intervention targets relevant to lower NA. These were: greater emotional acceptance; greater perceived control over affect; greater emotional clarity; greater impulse control when upset; and less frequent use of Passive Mood Management strategies. The first four targets were combined to form the “Affect Regulation Dispositions” construct in the SEM, which was a positive predictor of NA (i.e., greater difficulties predicted greater NA). This provided further support for the relevance of these dispositions in influencing languishing, including both Distress and NA. The correlational results also showed the importance of Active Mood Management, such that greater use of these strategies was related to lower NA (see Table 15).

8.3.2 Increasing positive affect, satisfaction with life and psychological well-being

According to regression model findings, greater experience of PA could be achieved by greater emotional awareness and impulse control when upset, and more frequent use of Active Mood Management and Seeking Pleasure/Distraction strategies. The SEM findings further supported the relevance of emotional awareness and use of Seeking Pleasure/Distraction strategies.
Regression results outlined three affect regulation intervention targets for higher SWL: greater perceived control over affect; greater emotional awareness; and more frequent use of Active Mood Management strategies. In the SEM, Active Mood Management strategies again emerged as a key determinant of higher life satisfaction. The correlational results in the model suggested greater use of Seeking Pleasure/Distraction strategies was related to greater life satisfaction.

Intervention targets identified for higher PWB were comparable to those revealed for SWL. Specifically, regressions suggested greater well-being could be influenced by greater perceived control over affect, emotional clarity and emotional awareness. This impact of Emotional Awareness was also found in the SEM. Correlational findings in the model showed a higher level of PWB was associated with more frequent use of Active Mood Management and Seeking Pleasure/Distraction strategies, and less frequent use of those represented in Passive Mood Management.

8.3.3 Summary

It should be possible to make use of this knowledge concerning the affect regulation strategies and dispositions that were associated with reduced languishing and increased flourishing outcomes. It is possible that these affective outcomes could be enhanced with instruction regarding the more frequent use of active and cognitive and pleasurable and distracting affect regulation strategies for example. Further, individuals could be advised against regular use or over reliance on Passive Mood Management strategies.

In addition, the affect regulation dispositions that were deemed relevant in this study are addressed in some existing psychological therapies. Emotion-Focused Therapy (EFT, Greenberg, 2004) for example is geared toward development of skills in this area, and includes a particular focus on complete processing of one’s emotional experiences, so they are understood and integrated into the individual’s ongoing life narrative. This therapeutic approach is oriented toward development of emotional awareness to facilitate greater control over one’s impulses and reduce avoidance behaviours. The importance of emotional acceptance and ability to identify and label one’s emotions are addressed. EFT also encourages individuals toward self-soothing,
breathing and distracting strategy use; strategies that are included in Active Mood Management and Seeking Pleasure/Distraction dimensions.

In his Emotion Regulation Therapy (ERT) for Generalised Anxiety Disorder, Mennin (2004) also discusses the need for a greater focus on the role of emotions in clinical approaches. This style of therapy is oriented toward enhancing the individual’s knowledge, acceptance and utilisation of emotions. Mennin describes ERT as an integration of aspects of cognitive-behavioural treatments (e.g., relaxation exercises and belief reframing) with emotion-focused strategies designed to increase skills in emotion regulation and reduce emotional avoidance. ERT is geared toward improving awareness and understanding of emotions, acceptance of these experiences and fostering the use of adaptive regulatory strategies.

It is noteworthy that these recently developed therapeutic approaches address the affect regulation intervention targets identified in the present Study 2 results. Evidence was found in favour of these particular therapies and their promising benefits. Furthermore, as suggested by Mennin (2004) and other authors (Gross & Munoz, 1995), these results highlight the vital role of emotions in psychopathology and treatment.

8.4 Implications of the project findings

8.4.1 Measurement

The psychometric investigation of the ARI in Study 1 highlighted the value of this recently developed inventory, and identified a shortcoming. Specifically, the internal consistency of the three subscales was only moderate. Given the substantial heterogeneity of items comprising the ARI however, it is contended that temporal stability is a more appropriate measure of reliability. Indeed, the test-retest analysis provided strong evidence of temporal stability and suggested this measure captures dispositional tendencies in relation to use of affect regulation strategies, tapping into utilisation patterns across time and contexts. In addition, anticipated and literature-consistent cross-sectional associations between strategies and state mood in Study 1 supported the convergent validity of the scale. The prospective analysis, with Time 2 affect regressed onto Time 1 strategy use, provided some evidence of predictive validity.
An EFA conducted in Study 2 showed the three-factor latent structure of the Affect Regulation Inventory (ARI) was fairly robust. The structure did not neatly emerge when subjected to CFA however, which found two of the scales were better represented by four rather than five items, and the overall statistical fit of the three-factor model was inadequate. Furthermore, results highlighted the relative independence of the three factors/subscales, and thus did not support summing the items to retrieve a total affect regulation strategy use score. Although the factorial validity of this scale was found to need further assessment, the concurrent criterion-related validity was supported in Study 2 by expected and interpretable associations revealed between the subscales and the other independent and outcome variables. Acceptable levels of internal consistency for the three scales was also identified, particularly noteworthy given the heterogeneous content of items comprising each scale. On the whole, results suggested that with continued investigation of the latent structure of the scale in particular, this instrument can be of value to affect regulation researchers. Given that the substantive findings in this project highlighted the well-being relevance of considering specific strategies individuals employ for their affect regulation attempts, further testing to advance the integrity of this developing measure is worthwhile.

8.4.2 Applied: theoretical and practical/clinical

The impact of ARI–measured affect regulation strategies on state affect in both the single and test-retest Study 1 samples was consistent with previous work in this area (e.g., Aldao et al., 2010; Augustine & Hemenover, 2009; Broderick, 2005; Fichman et al., 1999; Nolen-Hoeksema, 1991; Thayer et al., 1994; Totterdell & Parkinson, 1999). Results showed Active Mood Management and Seeking Pleasure/Distraction strategies were beneficial for the individual as measured in positive associations with PA. In contrast, the Passive Mood Management strategies demonstrated their maladaptive effects via a positive association with NA. Some of these associations were also revealed across time: greater use of Active Mood Management strategies at Time 1 predicted increased PA at Time 2; greater use of Seeking Pleasure/Distraction at Time 1 predicted increased PA at Time 2. The former effect remained in an analysis when Time 1 PA was statistically controlled. These
findings highlighted a range of effective and ineffective responses for improving one’s moods and emotions.

In Study 2, personality exerted the strongest influence on the affective outcome measures. Because of this dominance, it was difficult to elucidate the effects of particular affect regulation strategies for example. However, there was evidence that strategies did impact outcomes, and specifically, that active and cognitive and pleasurable and distracting strategies can be beneficial by increasing flourishing outcomes in particular. From a theoretical standpoint, these findings illustrate that consideration of the effects of individual strategies is pertinent to affect regulation research, in addition to further investigation of the pathways between this and broader affect regulation dispositions, and the interplay with personality. Study 2 demonstrated clear associations between these variables and raised theoretical questions that could be profitably investigated using real-time methods such as daily experience sampling. This methodology has been previously advocated by affect regulation researchers (Larsen, 2000).

It is contended that the particular strategies that demonstrated positive consequences for the individual provides potentially useful and/or confirmatory information for practitioners and laypeople alike concerning effective ways to respond to unpleasant affect. It is possible that the well-being of individuals could be improved with instruction regarding the more frequent use of active and cognitive and pleasurable and distracting affect regulation strategies for example. Further, individuals could be advised against regular use or over reliance on the Passive Mood Management strategies. Furthermore, associations revealed between personality, affect regulation dispositions and strategies highlight some mechanisms involved in the strategy choice process, and point to added entry points for intervention into a maladaptive affect regulation style.

Moreover, the affect regulation dispositions that were deemed relevant in this study are neatly addressed in some existing psychological therapies. Emotion-Focused Therapy (EFT, Greenberg, 2004) for example is geared toward the development of skills in this area, and includes a particular focus on the complete processing of one’s emotional experiences, so that they are understood and integrated into the individual’s ongoing life narrative. This therapeutic approach is oriented toward the development of emotional awareness to facilitate greater control over
one’s impulses and reduce avoidance behaviours. The importance of emotional acceptance and the ability to identify and label one’s emotions are addressed. EFT also encourages individuals toward self-soothing, breathing and distracting strategy use; strategies that are included in the Active Mood Management and Seeking Pleasure and Distraction dimensions.

In his Emotion Regulation Therapy (ERT) for Generalised Anxiety Disorder, Mennin (2004) also discusses the need for a greater focus on the role of emotions in clinical approaches. This style of therapy is oriented toward enhancing the individual’s knowledge, acceptance and utilisation of emotions. Mennin describes ERT as an integration of aspects of cognitive-behavioural treatments (e.g., relaxation exercises and belief reframing) with emotion-focused strategies designed to increase one’s skills in emotion regulation and reduce emotional avoidance. ERT is geared toward improving one’s awareness and understanding of emotions, acceptance of these experiences and fostering the use of adaptive regulatory strategies.

It is noteworthy that these recently developed therapeutic approaches address the affect regulation intervention targets identified in the present results. Evidence was found to support the validity of these particular therapies and the likelihood of their success in reducing languishing and enhancing flourishing outcomes for the individual. Furthermore, as suggested by Mennin (2004) and other authors (Gross & Munoz, 1995), these results support the vital role of emotions in psychopathology and treatment.

8.5 Project limitations and methodological considerations

8.5.1 Study 1

The primary limitation of this study concerns the self-report, internet-based data collection methodology. Some authors have outlined a range of advantages associated with research using this medium, including that increased anonymity leads to more candid responses and that the ability to respond in one’s familiar environment heightens ecological validity (Buchanan, Johnson & Goldberg, 2005). These same authors also pointed to disadvantages however, such as increased potential for dishonest or mischievous responses when online and lack of uniformity in assessment context. Moreover, it is noteworthy that the Affect Regulation Inventory was initially
developed with data collected via a paper-and-pencil questionnaire, while it has been validated in the present study with data extracted from this different medium. Finally, generalising the present study findings to the broader population must be qualified by the nature of the present samples. The single administration group was predominantly made up of Australian-born undergraduate students who had never been married. There was an overrepresentation of females. The test-retest administration subsample largely comprised Australian-born, highly educated, married individuals who were currently engaged in full-time work.

8.5.2 Study 2

Study 2 had a number of limitations. First, all analyses were based on self-report data. This is problematic in light of the idea that affect regulation processes are not always conscious (Gross, 1999; Larsen, 2000; Wood et al., 2003). Second, the data is cross-sectional. The main concern with this type of data relates to the finding of limited correspondence between daily reports of coping and affect regulation processes and retrospective reports of these phenomena (Ptacek, Smith, Espe, & Raffety, 1994). Ptacek et al. (1994) suggest that episodic memory decay means that accuracy of participant’s recall with regard to strategies they may have used worsens over time and results in a reliance on one’s own implicit theory of how they tend to cope, which is usually inaccurate. Smith, Leffingwell, & Ptacek (1999) also discussed the discordance between same-day and retrospective reports of coping. They found only 25% shared variance between daily and retrospective accounts of ways of coping.

Carver and Connor-Smith (2010) advocate an abandoning of cross-sectional, retrospective research designs in the coping literature. These authors argue that the well-accepted conceptualisation of coping, a closely related construct to affect regulation, as an ever-changing response to evolving situational demands, cannot be captured with a one-time retrospective report. They contend that studies using this methodology reveal nothing about how the dynamics of the coping process, such as timing, order and combination of coping responses, work together to influence outcomes. Furthermore, they discuss that because the impact of a given coping response is likely very brief, laboratory and daily report studies are essential for the future works in this area. These methodological approaches were also strongly
advocated by DeLongis and Holtzman (2005) who argue that coping does not operate in a vacuum, and daily process methods in particular allow for an examination of important contextual factors with greater complexity than more conventional research methods. Further, they suggest that studies combining a daily process and longitudinal investigative component would be of great value in uncovering the differential short and longer-term impact of one’s responses to stressful experiences.

It is possible therefore that a daily experience sampling design may be better equipped to capture the effects of individual strategies on affect, as these would be assessed in real-time. That is, individuals rate initial affect, report on use of some strategy and record subsequent affect, noting any change following strategy use. Immediate effects of strategy use may be lost in a cross-sectional design, in which the more enduring variables such as personality and affect regulation dispositions have dominant effects on the outcome indicators.

An additional methodological limitation concerns the collection of this study’s data, which was entirely internet based. Buchanan et al. (2005) highlighted some of the benefits of this mode of data collection, including that the full anonymity may encourage individuals to respond more candidly to an online questionnaire than a face-to-face interview for example, and also that completing a questionnaire in one’s usual and familiar environment creates greater ecological validity. They also pointed to some challenges of internet-based data collection however, and discussed that a measure administered via the internet versus in-person may not necessarily yield equivalent results. They outlined a range of possible causes for this: different interpretations of item content by respondents from different countries or cultures; increased level of self-disclosure that is associated with online responding; lack of uniformity in assessment context because of inability to standardise and control the testing situation; and greater potential for dishonest or mischievous responses when online. While acknowledging this limitation to the present data, it is contended that the initial data screening process worked to identify instances of random or disengaged responding, including that questionnaires that were not 70% or more complete were eradicated from the data.

Recruitment procedures also warrant consideration. Prospective participants were primarily sourced from student websites, including psychology student websites. Friends and associates were accessed via a snowball effect in order to retrieve a
broader community sample and age range. This was achieved in part, as the sample ranged from 18 to 82 years, with a slightly higher average age than many entirely undergraduate samples, of 27 years for males and 30 for females. At the time of completing the questionnaire however, 58% of participants were current students. It is proposed that the manner in which participants were recruited for this study does not render the results invalid in other samples, but is contextual information pertaining to the results retrieved.

An additional limitation of this study concerns the underlying theoretical framework. This framework (see Figure 1) proposed a pathway of influence that was investigated. That is, in the context of predicting affective outcomes, it was proposed that personality traits impact affect regulation dispositions which impact affect regulation strategy use. It is also acknowledged however that reverse pathways of influence between these variables are equally plausible and warrant investigation. For example, it is possible that levels of well-being and distress (i.e., affective outcomes) may impact the deliberate actions that are taken for regulating affect and the manner in which affective experiences are perceived and appraised (i.e., affect regulation dispositions). A similar pathway was discussed by Carver and Connor-Smith (2010) who reported that intense emotional arousal for example can influence or interfere with the use of particular coping strategies.

Another limitation of this project concerns the nature of the ARI. In responding to this measure, participants were asked to “indicate the extent to which you adopt the following strategies to try to improve your moods and emotions (e.g., when you try to get out of a bad mood or maintain or enhance a good mood”). This wording, which taps in both of mood repair and mood maintenance processes, was chosen to reflect the current study’s interest in upward regulation of mood, consistent with much existing research in this area (e.g., Fichman et al., 1999; Gross & John, 2003; Nolen-Hoeksema & Morrow, 1993; Thayer et al., 1994; Totterdell & Parkinson, 1999). However, work conducted by Lischetzke and Eid (2006) and others (Kokkonen & Pulkkinen, 2001; Mayer & Stevens, 1994) suggests that mood maintenance and repair are separate constructs that demonstrate different relationships with well-being indicators. For example, measures of mood maintenance have been more closely related to happiness and satisfaction, whereas mood repair has shown stronger relationships with subjective distress (Bryant, 1989). It is possible that
greater accuracy and specificity in the current project results would have been retrieved had the ARI been used to capture just one of mood repair or mood maintenance strategies, for example, and this limitation may be particularly pertinent to the difficulties associated with elucidating the impact of strategies on outcomes in Study 2.

A further limitation concerns the omission of a number of factors that would likely be associated with affect regulation processes. The current study was interested in strategies, regulation dispositions and personality variables and their individual and combined impact on flourishing and languishing outcomes. However, there are many additional variables that would likely impact both the independent predictors and outcome variables under investigation. For example, daily hassles, defined as repeated or chronic strains of everyday life (DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982) have been found to be strong predictors of health outcomes (DeLongis et al., 1982) and have demonstrated relationships with emotional intelligence scales (Day, Therrien, & Carroll, 2005). Consideration of the level of daily life hassles of individuals may have added another dimension of understanding to the association between regulation strategy use and outcomes. Individuals who report greater hassles may benefit to a larger extent from their strategy use or alternatively the effects of strategies may be negligible in the face of the chronic stressors. It is further plausible that individuals experiencing a larger number of daily hassles in their current life may rely on a particular set of affect regulation strategies. Consideration of participant’s sociodemographic background as well as current use of psychiatric medication in the analyses may have also added to the depth of results that were retrieved. It is likely that these features of the individual would have relevance to affective outcomes, and potentially modify the relation between regulation strategies and outcomes. A previous investigation for example found that distraction but not rumination, predicted an improvement in depression status following pharmacological treatment (Bagby et al., 1999). Medication use may also dampen the effects of strategies as well as blunt affect.

Although the current study considered the role of enduring characteristics of the individual such as personality, Wood et al. (2003) found that self-esteem status is of crucial relevance to the regulation of affect. Level of self-esteem was related to the propensity to either dampen or savour positive affect for example, and these effects
were evident even after N and E had been controlled. These authors concluded that self-esteem was a strong predictor of affect regulation phenomena across several studies, and this study was limited in not having considered this pertinent variable.

Finally, Study 2 did not give attention to cultural differences among participants. Given that responses to one’s moods and emotional experiences have been found to be embedded in cultural phenomenon (e.g., Moore & Constantine, 2005), it is possible that considering cultural background in a study such as this would shed further light on the phenomena under investigation. An example of cultural differences in responses to emotion relates to the notion of forbearance amongst the nations of Africa, Asia and Latin America. Moore and Constantine reported that students from these cultures report use of this coping strategy, which is characterised by minimisation or concealment of one’s problems in order to not trouble or burden others. They discuss that individuals from these collectivistic cultures are reluctant to share their problems with others for fear of negative evaluation or of creating interpersonal conflicts. This is in contrast to individuals from Western, individualistic nations, who are much more inclined to cope via expressing their thoughts and feelings and directly confronting others who they believe were the cause of their upset (Moore & Constantine). These authors discuss that different self-construals of people from collectivistic and individualistic nations have demonstrated strong relationships with coping tendencies. It is likely that the effects of these tendencies or strategies would therefore differ according to the individual’s background.

8.6 Proposed directions for future research

Further investigation of the psychometric properties of the Affect Regulation Inventory in new and different samples would be beneficial. Questions remain concerning the scale’s internal consistency, and it would be useful if the current study’s analyses of temporal stability were replicated.

It would be of benefit to the literature if future studies investigated the questions of this project using a daily experience sampling methodology (e.g., Fichman et al., 1999; and see Larsen, 2000). This would allow for the collection of data concerning personality and affect regulation dispositions at the study outset, exploring daily affect regulation strategy use and affective experience and then testing the associations among these phenomena in a real-time framework. Data drawn from
this type of methodology would also be invaluable for further evaluating the psychometric properties of the developing ARI scale.

The limitations outlined above are worthy subjects of investigation for future projects. That is, consideration of daily hassles, demographic characteristics, presence of current psychological disorder and/or medication use, level of self-esteem and cultural background in addition to the variables tested in this study would comprise a theoretically-rich exploration of affect regulation processes and affective outcomes for the individual. Replication of the current study in a slightly older sample would also be advantageous, particularly in relation to the known improvements in affect regulation and well-being status that occur with age (Carstensen, Isaacowitz & Charles, 1999).

In addition, it is suggested that future works consider the different processes involved in the regulation of specific emotions, such as sadness versus anger versus shame. John and Gross (2004) raised this idea following their examination of individual difference and well-being correlates of reappraisal and suppression, asserting that the consequences of various strategies would likely be different depending on the particular emotional context. Also as discussed by John and Gross, a further important direction for future studies is to investigate affect regulation processes in a range of samples, including those with variability in psychological and physical health status. This would help with developing an understanding of the health implications and consequences associated with the many different ways in which individuals respond to their mood and emotional experiences.

Finally, it has been the contention of this thesis that affect regulation be defined and measured as a multidimensional construct, that incorporates both a dispositional and a volitional action dimension. This operationalisation of the construct proved fruitful in the present project, as the affect regulation variables were at minimum moderately related to a range of affective outcomes and exerted predictive value over and above other strong constructs in the well-being space such as personality. It is suggested that our understanding of the impact of affect regulation processes on the individual would greatly expand if future studies experimented with a similar multidimensional conceptualisation of this critical health construct.
8.7 Conclusion

This project comprised two studies that investigated the affect regulation construct. Study 1 was an assessment of the psychometric profile of the recently developed ARI. This measure was administered to two groups of participants: a single administration sample ($n = 160$); and a test-retest administration sample ($n = 86$). Results supported the psychometric properties of the ARI, and in particular, provided sound evidence of temporal stability and construct convergent validity. There was only weak support for the scale’s internal consistency; this was interpreted in light of the heterogeneity of items. Prospective data displayed Time 1 effects of Active Mood Management and Seeking Pleasure/Distraction strategies on Time 2 PA, whereby greater use of these strategies predicted higher subsequent PA. With additional testing and validation, it was concluded that the ARI could be useful in a research and clinical context.

Study 2 was based on data drawn from an international sample ($N = 924$). General Linear Model techniques analysed the impact of affect regulation strategies, affect regulation dispositions and personality variables on languishing and flourishing affective outcomes. The interplay between strategies, dispositions and personality was also of interest. A key question driving this study was to test the predictive power of strategies on affective outcomes in comparison to other dominant predictors that were simultaneously considered, i.e., regulation dispositions and personality. Other authors in this field have suggested that knowledge concerning particular strategies used by an individual provides little information about that individual’s ability to effectively regulate his or her emotional experiences (Gratz & Roemer, 2004). Instead, these authors propose that contextual information is needed for assessment of regulation effectiveness, including details concerning ability to inhibit impulsive behaviours and persist with goal-directed activity when upset, for example. The present analysis was constructed in response to these ideas, and sought to uncover the influence of particular affect regulation strategies on affective outcomes.

The assessment of the predictive power of strategies had theoretical implications. It was a validity test for the affect regulation construct that evaluated whether this had explanatory value above and beyond the regulation dispositions and particularly, personality traits. It was also informative with regards to the optimal way of defining and conceptualising affect regulation phenomena: according to the
particular strategies employed by individuals or their more general ways of approaching and processing emotional experiences (i.e., dispositions). The analysis had clinical relevance too. It was geared toward identifying the strongest predictors of affective outcomes and in doing so, extracting clear affect regulation intervention targets for improving outcomes. This information could be of interest to researchers and clinicians alike.

Results from regression models and SEM analyses supported the powerful influence of personality predictors, particularly the impact of N as well as C. Affect regulation dispositions exerted a similarly dominant effect on outcomes, with perceived control over affect demonstrating the strongest impact on both languishing and flourishing. In the main however, the variables deemed important in relation to the two types of outcome were quite different. Personality traits were more influential in the prediction of flourishing for example, whereas the affect regulation dispositions had a greater impact on languishing outcomes.

There was evidence that particular strategies used by the individual were relevant to outcomes. Active Mood Management and Seeking Pleasure/Distraction strategies were found to be unique and positive predictors of flourishing outcomes in particular. Gender differences in the affect regulation phenomena were revealed; some of these were consistent with existing theory and some were novel and interpreted in light of the nature of this study sample. It is hoped that these findings advance current understanding of the important process that is affect regulation, and support the idea that the specific strategies used by the individual are relevant in the determination of their health and well-being.
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APPENDICES
Appendix A. Further results from Study 1: Collection of qualitative data responses concerning affect regulation strategy use

Following completion of the Affect Regulation Inventory (ARI) in Study 1, participants were asked: “If there are any strategies that you regularly use (at least once per week) for regulating your moods and emotions that are not included here, please state:……...”. This question was included in an effort to assess how well this brief measure of affect regulation strategy use had sampled from the domain of interest, and whether any frequently used strategies had been excluded and would therefore be profitably included, in this inventory. A total of 16 responses (taken from \(N = 86\), 18.6% of participants) were retrieved in the retest administration and 35 (taken from \(N = 160\), 21.9% of participants) in the single administration of the study. These raw data responses are listed below. Two conclusions were suggested by the results. First, many of these extra strategies listed by participants were included in the original 29-item checklist created by Thayer et al. (1994), which was the basis of the development of the ARI. This highlights that these additional strategies listed by participants have been previously identified in the literature. Further, these results suggested the ARI has sampled well from the domain of interest and did not miss any crucial strategies, as would have been the case if a particular strategy were listed by a large number of participants for example.

Retest Study Responses
Rest or sleep
get under control mood and emotion
Day dream a desired job, knowing that they are pipe dreams
plan something to do to look forward too
More sleep
Have a shower – I find it calms me
Read a book/magazine
Recreational drugs
Bury myself in activity (work, housework, chores, cooking, shopping (but not in a retail therapy sense) reading).
mindfulness
Mindfulness: focus on the now
Spend time with pets. Do some gardening.
Go for a drive – Sometimes. Have a nap – Sometimes.
be held by my husband, write it out
sleep.
Number 7: Sometimes talk to myself without realising I’m doing it in front of the family.
Single Administration Study Responses

Pray to God

cooking, doing the opposite of what I want to do…eg. if I want to be alone and cry, I
laugh and joke with people, if I hate skipping, I go and do it!

Go out and engage in sporting activities to release the stress.

Reading a novel as a distraction, as this seems to calm me down. Write in online
diary and get emotions down on paper.

Self-harm Writing a journal

Pray

I try to forget about the past and the future

sing, write down feelings or say them out loud, force myself to smile

Go out, socialise and have a good time (Usually involves drinking though)

i am a compulsive list maker, and write lists constantly to try and plan for things.

looking at a list i have written out makes me feel calm.

Get rid of all study activities.

Get hugs

Go to a park or somewhere quiet and scenic – river etc

Qigong – similar to Tai Chi, to improve energy flow

sleep

I used to regulate stress and mood swings with smoking.

Smoking.

Refer to myself in the first person “I” compared to my normal mode of thought in
which I refer to myself in the third person or “you”.

Throw myself into working harder

the only really satisfactory way for me to control my moods is to retreat into my
writing, for that’s the only place I feel safe

Blogging and/or chatting online, checking out what my friends are up to on social
websites, leaving posts etc.

writing a diary, drawing emotions

None

smoking (i know it doesn’t work, but somehow i feel better)

Listening to my moods and being honest about how I feel. Accepting these moods
whether positive/negative. Giving myself the time I need to integrate these emotions.

Pat the dog.

I use a lot of the techniques above in general, not just to regulate my moods

try rationalizing that there is a good outcome out of any situation

prayer

I try to get more sleep if I’m working through some specific problem. a Daytime nap
in particular will often produce enough dream time to work through it. Working in
the yard/garden also calms me down when I’m stressed or antsy.

Cooking

Masturbation, almost every night Spend time with my pets Gardening Go do
something with my husband, if he asks

Confront the person who caused mood to change

Pray and talk to God
Appendix B. Further results from Study 2: Continued investigation of the primary languishing model for generalised psychological distress (invariance testing results)

The suppression effect identified in the full structural model for predicting generalised psychological distress was investigated in greater detail than reported in the Study 2 Results. A net suppression effect was identified in this model, whereby the path from Active Mood Management to Distress was in the opposite direction to the zero-order correlation between these variables. The systematic removal of independent predictors from the model found that when Neuroticism was excluded, the direct path from Active Mood Management to Distress returned to the expected direction, which was negative (i.e., greater use of Active Mood Management associated with decreased Distress). This finding proposed that N was the suppressor variable in this model. There was not clear evidence to support this hypothesis however, as when N was excluded from the full Distress model, the systematic reinstatement of the other independent predictors resulted in the same suppression effect for the Active Mood Management to Distress path. It was thus reported that a “suppression situation” rather than specific “suppressor variable” had been identified (Tabachnick & Fidell, 2001) and the subsequent analyses for predicting Distress were conducted using a stepwise model approach.

Additional analyses were conducted to further investigate the impact of Neuroticism in this full structural model for Distress. Specifically, the suppression effect raised the hypothesis that N moderated the association between the variables in question, Active Mood Management and Distress. In other words, the relationship between Active Mood Management strategy use and Distress was hypothesised to be different for individuals with varying levels of reported N. Invariance testing was employed to examine this moderation hypothesis, which compared the full Distress structural model in a low and a high N sample. This model is displayed in Figure 37.
The sample of $N = 922$ was divided into low and high N groups using a median split. In the total sample, N scores ranged from 10 to 50 and the median score was 26. The structural model was tested in the low ($n = 465$) and high ($n = 457$) N sample using ML estimation. This analysis found a significant difference in the model structural weights for the low and high N groups, $\chi^2 = (12, N = 924) = 35.84, p < .001$. This finding indicated that the structural paths in the model were not invariant across the two groups, but that the model must be tested separately in the low and high N data sets.

The structural model predicting level of Distress was first tested in the low N sample. In contrast to when all cases were analysed together ($N = 922$), this model contained only a small number of significant direct effects. The standardised regression coefficients identified one significant predictor of Distress: Emotional Processing ($\beta = .53, p < .01$). The remaining hypothesised pathways to Distress were not significant, including: N; C; and Active Mood Management. Of the four additional hypothesised direct effects in this model, two were significant: N to Emotional Processing ($\beta = .79, p < .001$); C to Active Mood Management ($\beta = .21, p < .01$). In contrast to when all cases were analysed together, C to Emotional Processing and Emotional Processing to Active Mood Management were not significant in this model. The model explained 49.4% of the variance in Distress for low N participants.
The structural model for Distress was next assessed in the high N sample. Unlike for the low N, the size and significance of the direct effects for high N participants were comparable to those identified when all cases were analysed together. All hypothesised predictors of Distress were significant at $p < .001$, excluding Active Mood Management to Distress which was $p < .01$. The strongest predictor of Distress was the higher-order Emotional Processing construct ($\beta = .41$), followed by N ($\beta = .40$), Conscientiousness ($\beta = -.16$) and Active Mood Management ($\beta = .14$). All additional structural pathways in the model were significant, including: N to Emotional Processing ($\beta = .78$); C to Emotional Processing ($\beta = -.12$); C to Active Mood Management ($\beta = .22$); and Emotional Processing to Active Mood Management ($\beta = -.21$). This model explained 66% of the variance in Distress for high N participants (66%). The model captured a greater portion of the variance in the dependent variable than in the low N sample, suggesting this model was a better overall fit for high N participants.

The invariance testing for the Distress structural model provided some insight into the nature of the suppression effect identified in the full model. Specifically, the suppression effect was identified in the full model in relation to the path from Active Mood Management to Distress, which was contrary to expectations, in a positive direction. When this model was tested in the low N sub-sample, there was virtually no association between these variables ($\beta = .03, p > .05$). Although the path was positively valenced, it was small and non-significant. When the model was tested in the high N sub-sample however, this direct effect was stronger and more highly significant than when all cases were analysed together ($\beta = .14, p < .01$ in high N model; $\beta = .08, p < .05$ in total sample model). This finding proposed that N moderated the association between Active Mood Management and Distress. Further, when this regression weight was constrained to equality for the low and high N groups, nested model comparisons indicated there was a significant deterioration in the model, $\chi^2 = (1, N = 922) = 4.29, p < .05$. This suggested that there were differences in the model for low and high N participants, and specifically a significant worsening of the model when this path in particular was forced to have the same weight for the two groups.
Appendix C. Further results from Study 2: Investigation via confirmatory factor analysis (CFA) of a “distress proneness” construct

The results obtained in the regression analyses and the SEM structural model for Distress questioned the theoretical and practical value of the Affect Regulation Inventory. In particular, these analyses identified Affect Regulation Dispositions (DERS scales) and personality style (API scales: N and C especially) to be the strong and robust predictors of the outcome dependent variables including Distress. A key motivator driving these analyses was to assess the predictive value of an affect regulation strategies behavioural-oriented scale such as the ARI and compare and contrast this with known strong predictors of well-being outcomes such as personality scales. The results were clear in responding to this research question, in the context of this study at least, as it was found that the ARI was not a significant predictor of Distress in the regressions, and involved in a suppression effect in the structural model, which subsequently required this scale to be tested in an individual model.

These findings suggested that the strategies-based ARI scale was either not related to an outcome variable such as Distress or that the predictive effects of this scale could not be identified in an analysis that also considered other known strong predictors such as personality. An alternate plausible hypothesis was also highlighted in this study’s findings however. Specifically, the zero-order correlations between both the DERS and API scales (N in particular) with Distress were much higher (minimum of $r = .50$) than the correlations between the ARI scales and Distress (maximum of $r = .20$). It was hypothesised that the strong associations between these former scales was due to shared or overlapping item content, such that the DERS scales, API (N scale), and Distress could all be represented by a shared latent construct, called “Distress proneness”. In contrast, it was expected that the ARI scales would not be highly associated with this hypothesised latent construct, which would highlight the uniqueness of the content domain captured in this scale.

The present investigation tested this hypothesis in AMOS, with a CFA and ML estimation (see Figure 38). The model was not an overall good fit to the data, $\chi^2 = (44, N = 922) = 770.59, p < .001$ (Bollen-Stine $p > .05$), RMSEA = .13 (.13; .14), CFI = .85 and SRMR = .09. However, the size and direction of the standardised regression weights to the hypothesised latent construct were the results of interest in this analysis. The factor loadings were significant at $p < .001$, excluding Pleasure to
Distress Proneness which was $p < .05$. The standardised loadings in size order were:

DERS - Access to Strategies ($\beta = .97$); API - N ($\beta = .87$); DERS - Impulse Control ($\beta = .85$); K10 - Distress ($\beta = .84$); DERS – Emotional Acceptance ($\beta = .79$); DERS – Impact on Goals ($\beta = .73$); DERS – Emotional Clarity ($\beta = .71$); ARI – Passive Mood Management ($\beta = .39$); ARI – Active Mood Management ($\beta = -.31$); DERS – Emotional Awareness ($\beta = .17$); and ARI – Seeking Pleasure/Distraction ($\beta = -.12$).

In line with expectations, these results indicated that the DERS and API (N) scales were more highly associated than the ARI scales with a hypothesised latent construct labeled “Distress Proneness”. Five of the six DERS scales (excluded Emotional Awareness) and the API N scale had markedly higher loadings on this construct than the three ARI strategy scales. Interestingly, the DERS scales – Access to Strategies and Impulse Control, and N scale had stronger loadings on Distress Proneness than did reported levels of current distress, measured by the K10 Distress Scale. These findings support the idea that the high associations between the DERS and API N scales with outcome variables such as Distress may be partly due to the shared item content between these predictor and outcome scales. Furthermore, the results pointed to the theoretical and practical value of the ARI. These three subscales showed substantially lower loadings on Distress Proneness than the DERS and API-N, suggesting that this measure sampled from a unique content domain.
Figure 38: CFA Model Testing Hypothesised Latent Construct “Distress Proneness”
Appendix D. Frequency histograms and probability plots for assessing normality of continuous variables

Figure 39: Frequency histogram of ARI Active Mood Management (N = 924)

Figure 40: Normal q-q plot of ARI Active Mood Management (N = 924)

Figure 41: Detrended q-q plot of ARI Active Mood Management (N = 924)
Figure 42: Frequency histogram of ARI Passive Mood Management ($N = 924$)

Figure 43: Normal q-q plot of ARI Passive Mood Management ($N = 924$)

Figure 44: Detrended q-q plot of ARI Passive Mood Management
Figure 45: Frequency histogram of ARI Seeking Pleasure/Distraction ($N = 924$)

Figure 46: Normal q-q plot of ARI Seeking Pleasure/Distraction ($N = 924$)
Figure 47: Detrended q-q plot of ARI Seeking Pleasure/Distraction \((N = 924)\)

Figure 48: Frequency histogram of DERS Acceptance \((N = 924)\)
Figure 49: Normal q-q plot of DERS Acceptance ($N = 924$)

Figure 50: Detrended q-q plot of DERS Acceptance ($N = 924$)
Figure 51: Frequency histogram for DERS Goals (N = 924)

Figure 52: Normal q-q plot of DERS Goals (N = 924)
Figure 53: Detrended q-q plot of DERS Goals ($N = 924$)

Figure 54: Frequency histogram of DERS Impulse ($N = 924$)
Figure 55: Normal q-q plot of DERS Impulse (N = 924)

Figure 56: Detrended q-q plot of DERS Impulse (N = 924)
Figure 57: Frequency histogram of DERS Awareness ($N = 924$)

Figure 58: Normal q-q plot of DERS Awareness ($N = 924$)
Figure 59: Detrended q-q plot of DERS Awareness ($N = 924$)

Figure 60: Frequency histogram of DERS Access to Strategies ($N = 924$)
Figure 61: Normal q-q plot of DERS Access to Strategies ($N = 924$)

Figure 62: Detrended q-q plot of DERS Access to Strategies ($N = 924$)
Figure 63: Frequency histogram of DERS Clarity ($N = 924$)

Figure 64: Normal q-q plot of DERS Clarity ($N = 924$)
Figure 65: Detrended q-q plot of DERS Clarity (N = 924)

Figure 66: Frequency histogram of DERS Total Score (N = 924)
Figure 67: Normal q-q plot of DERS Total Score ($N = 924$)

Figure 68: Detrended q-q plot of DERS Total Score ($N = 924$)
Figure 69: Frequency histogram of API Neuroticism ($N = 924$)

Figure 70: Normal q-q plot of API Neuroticism ($N = 924$)
Figure 71: Detrended q-q plot of API Neuroticism ($N = 924$)

Figure 72: Frequency histogram of API Extraversion ($N = 924$)
Figure 73: Normal q-q plot of API Extraversion ($N = 924$)

Figure 74: Detrended q-q plot of API Extraversion ($N = 924$)
Figure 75: Frequency histogram of API Openness \((N = 924)\)

Figure 76: Normal q-q plot of API Openness \((N = 924)\)
Figure 77: Detrended q-q plot of API Openness ($N = 924$)

Figure 78: Frequency histogram of API Agreeableness ($N = 924$)
Figure 79: Normal q-q plot of API Agreeableness ($N = 924$)

Figure 80: Detrended q-q plot of API Agreeableness ($N = 924$)
Figure 81: Frequency histogram of API Conscientiousness ($N = 924$)

Figure 82: Normal q-q plot of API Conscientiousness ($N = 924$)
Figure 83: Detrended q-q plot of API Conscientiousness ($N = 924$)

Figure 84: Frequency histogram of K-10 Psychological Distress ($N = 924$)
Figure 85: Normal q-q plot of K-10 Psychological Distress ($N = 924$)

Figure 86: Detrended q-q plot of K10 Psychological Distress ($N = 924$)
Figure 87: Frequency histogram of PANAS Positive Affect ($N = 924$)

Figure 88: Normal q-q plot of PANAS Positive Affect ($N = 924$)
Figure 89: Detrended q-q plot of PANAS Positive Affect ($N = 924$)

Figure 90: Frequency histogram of PANAS Negative Affect ($N = 924$)
Figure 91: Normal q-q plot of PANAS Negative Affect (N = 924)

Figure 92: Detrended q-q plot of PANAS Negative Affect (N = 924)
Figure 93: Frequency histogram of Ryff Autonomy ($N = 924$)

Figure 94: Normal q-q plot of Ryff Autonomy ($N = 924$)
Figure 95: Detrended q-q plot of Ryff Autonomy \((N = 924)\)

Figure 96: Frequency histogram of Ryff Enviro Mastery \((N = 924)\)
Figure 97: Normal q-q plot of Ryff Enviro Mastery ($N = 924$)

Figure 98: Detrended q-q plot of Ryff Enviro Mastery ($N = 924$)
Figure 99: Frequency histogram of Ryff Personal Growth (N = 924)

Figure 100: Normal q-q plot of Ryff Personal Growth (N = 924)
Figure 101: Detrended q-q plot of Ryff Personal Growth ($N = 924$)

Figure 102: Frequency histogram of Ryff Positive Relations ($N = 924$)
Figure 103: Normal q-q plot of Ryff Positive Relations ($N = 924$)

Figure 104: Detrended q-q plot of Ryff Positive Relations ($N = 924$)
Figure 105: Frequency histogram of Ryff Self-Acceptance ($N = 924$)

Figure 106: Normal q-q plot of Ryff Self-Acceptance ($N = 924$)
Figure 107: Detrended q-q plot of Ryff Self-Acceptance ($N = 924$)

Figure 108: Frequency histogram of Ryff Purpose in Life ($N = 924$)
Figure 109: Normal q-q plot of Ryff Purpose in Life ($N = 924$)

Figure 110: Detrended q-q plot of Ryff Purpose in Life ($N = 924$)
Figure 111: Frequency histogram of Ryff total score ($N = 924$)

Figure 112: Normal q-q plot of Ryff total score ($N = 924$)
Figure 113: Detrended q-q plot of Ryff total score (N = 924)

Figure 114: Frequency histogram of SWLS Satisfaction with Life (N = 924)
Figure 115: Normal q-q plot of SWLS Satisfaction with Life ($N = 924$)

Figure 116: Detrended q-q plot of SWLS Satisfaction with Life ($N = 924$)
Appendix E. EFA results for Study 2 instruments

The Difficulties in Emotion Regulation Scale (DERS)

In line with Gratz and Roemer’s methodology, (2004), Principal Axis Factoring (PAF) was employed for factor extraction and a Promax oblique rotation allowed for expected correlations among factors. The data were deemed suitable for factor analysis, as the Kaiser-Meyer Olkin (KMO) value was .95, indicating sufficient shared variance to be explored, and the factorability of the correlation matrix was further supported by a highly significant Bartlett’s Test of Sphericity (< .001).

![Scree Plot](image)

Figure 117: Scree Plot for DERS Factors

The authors of this scale found a six or seven-factor solution was suggested by the Scree plot. The six-factor solution was retained for reasons of interpretability. These six factors accounted for 55.7% of the total item variance, and all factor loadings were greater than .40. In the present study, the Scree plot suggested a three or six-factor solution (see Figure 117). Six factors were retained, as these were supported by the eigenvalues (> 1) and the factor structure proposed by Gratz and Roemer (2004). The results of this analysis are displayed in Table 24.
Table 24: Factor Structure of the DERS with PAF Extraction and Oblique Rotation

<table>
<thead>
<tr>
<th>DERS item</th>
<th>Factor 1 Nonacceptance</th>
<th>Factor 2 Impulse</th>
<th>Factor 3 Goals</th>
<th>Factor 4 Awareness</th>
<th>Factor 5 Clarity</th>
<th>Factor 6 Strategies</th>
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<td>10.4</td>
<td>4.8</td>
<td>3.6</td>
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The six factors accounted for 59.6% of total variance in DERS items. The six-factor solution was supported by the magnitude of the item communalities, which were all > .3 and the majority of factor loadings were also > .3. The solution had limitations however, and was not an exact replication of the factor structure identified by Gratz and Roemer (2004). Specifically, as seen in Table 24, there was a small number of cross-loading items and items that loaded on an alternate factor than was proposed by the original scale authors. Two of the factors (Goals and Awareness)
matched Gratz and Roemer’s work; however the Nonacceptance scale contained an item from the Strategies scale and the Clarity scale contained an item from the Impulse Control scale. To further investigate the factor structure of this instrument, the analysis was repeated with a Maximum Likelihood extraction and Promax oblique rotation. This solution was superior to that obtained using PAF, with only one item loading on an alternate factor than was proposed by the scale authors: DERS3 loaded on Strategies rather than Impulse Control. The six factors accounted for 59.5% of the total item variance. The factors were moderately correlated (see Table 25), excluding the Awareness scale which appeared unrelated to the other scales comprising the DERS. Comparable results were identified by Gratz and Roemer however, who found this scale displayed lower intercorrelations than others contained in the DERS.

<table>
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<th>Scale/Factor</th>
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<th>3</th>
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<td>-.04</td>
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<td>5 Clarity</td>
<td>.67</td>
<td>.72</td>
<td>.03</td>
<td>.67</td>
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<tr>
<td>6 Strategies</td>
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<td>.61</td>
<td>.27</td>
<td>.51</td>
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<td></td>
</tr>
</tbody>
</table>

Table 25: Correlations Amongst Scale Factors of the DERS

$N = 924$

The Australian Personality Inventory (API)

The API is a relatively new scale comprised of 50 items compiled from Goldberg’s International Personality Item Pool. In their establishment of this scale, the authors (Murray et al., 2009) presented a strong psychometric profile drawn from a random Australian community sample ($N = 7615$) and a university-based sample ($N = 271$). In order to retrieve the Five-Factor Model (FFM) however, an apparent response set (mean response across items) was statistically controlled. Prior to this, parallel analysis and the Scree plot supported the extraction of six factors and only the scale for Neuroticism was clearly identified in the data. After adjusting for the response set, the authors found support for the FFM in their scale. A Principal Components Analysis (PCA) with Varimax orthogonal rotation uncovered the five factors, that accounted for 42.3% of the total item variance. There was only one problematic item (Openness scale item 18 “Carry the conversation to a higher level”) which loaded slightly higher on the Extraversion factor (.464) than its expected factor.
The factor structure of this new instrument was further investigated in the present study sample.

In line with Murray et al. (2009), the factor analysis employed a PCA with Varimax rotation. The KMO (.90) and Bartlett’s Test of Sphericity (< .001) indicated the data were suitable for factor analysis. There were nine factors with eigenvalues greater than 1, and the Scree plot (see Figure 118) showed six factors fell before the elbow in the plot. The analysis was repeated with a five-factor extraction, in keeping with the FFM and surface structure of the instrument. Results are displayed in Table 26.

![Scree Plot](image)

Figure 118: Scree Plot for API Components

<table>
<thead>
<tr>
<th>API item</th>
<th>Factor 1 (E)</th>
<th>Factor 2 (N)</th>
<th>Factor 3 (C)</th>
<th>Factor 4 (A)</th>
<th>Factor 5 (O)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>12</td>
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<td>22</td>
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<tr>
<td>32</td>
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<tr>
<td>27</td>
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<td>2</td>
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<td>42</td>
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<tr>
<td>18</td>
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<td>37</td>
<td>.40</td>
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<td>11</td>
<td></td>
<td>.74</td>
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</tr>
</tbody>
</table>
As shown in Table 26, the five-factor solution approached simple structure, with each item loading significantly on one of the factors (> .3) and all factors had a number of significant loadings. The five factors together accounted for 45.6% of total item variance. Most of the communalities were greater than .3, with just one exception (API33, Openness factor, “Enjoy wild flights of fantasy” = .24). As seen in Table 26 however, there were a small number of cross-loading items and the FFM could not be clearly inferred from this solution. Aside from one factor (Conscientiousness or C) that was clearly retrieved in this analysis, seven items

<table>
<thead>
<tr>
<th>API item</th>
<th>Factor 1 (E)</th>
<th>Factor 2 (N)</th>
<th>Factor 3 (C)</th>
<th>Factor 4 (A)</th>
<th>Factor 5 (O)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>13</td>
<td></td>
<td></td>
<td></td>
<td>.31</td>
<td></td>
</tr>
</tbody>
</table>

N = 924
loaded on an unexpected factor. Specifically, all 10 Extraversion (E) items had their highest loading on Factor 1, but item 18 intended for the Openness (O) scale also had its highest loading on this factor. Ten Neuroticism (N) items had their highest loading on Factor 2, but items 39 and 29 from Agreeableness (A) and items 8 and 33 from Openness (O) also had their highest loading on this factor. Seven items from the Agreeableness (A) scale had their highest loadings on Factor 4, but item 23 from Openness (O) also loaded most strongly on this factor. Items missing from the A scale loaded instead on Neuroticism and Openness. Six Openness (O) items had their highest loading on Factor 5, but this scale was missing items that loaded on Extraversion, Neuroticism and Agreeableness. One A item also had its highest loading on Factor 5.

The factor structure of the API in this data set was further investigated using Maximum Likelihood extraction and Varimax rotation. This solution did not improve on the above result however, as the same seven items continued to load on an unexpected factor and none of the five factors could be clearly inferred. Whether the FFM could be retrieved if mean-adjusted items were used in this analysis, as found by the scale authors (Murray et al., 2009), was tested. Participant mean score across all API items was subtracted from the raw scores to create a new set of mean-adjusted API items. These were next subjected to a PCA with Varimax rotation. This resulted in an inferior solution however to those identified using participant raw scores. Although Conscientiousness was clearly retrieved, there was a factor that contained most of the Neuroticism and Extraversion items together, and the remaining factors contained a combination of the personality items.

Concluding their investigation of the factor structure of their API, Murray et al., (2009) proposed that the mean-score adjustment was likely to be unnecessary in most applications of this scale, as factor scores adjusted for the response set were highly correlated with scale scores based on the raw data. In line with this, the present study found a neater solution when raw API scores were employed, using PCA and Varimax rotation. Only 7 of 50 items loaded on an unexpected factor, and the solution accounted for a modest (45.6%) portion of total item variance. Conscientiousness appeared to be the most robust factor as it was the only one of the FFM that had all 10 highest loading personality items pertaining to this scale.
The Kessler-10 Psychological Distress Scale (K10)

The factor structure of this instrument was explored in the present study, with a Maximum Likelihood factor extraction. A single factor clearly emerged from this analysis, supported by the eigenvalues and Scree plot (see Figure 119). This factor accounted for 53.4% of the variance in the ten items. All communalities were greater than .3 and factor loadings were greater than .6. This single factor solution is consistent with the findings of the scale authors (Kessler et al., 2002).

Figure 119: Scree Plot for K10 factors
The Positive and Negative Affect Schedule (PANAS)

The present study employed a Principal Axis Factor Analysis (PAF) with Varimax rotation to confirm the two-factor structure in this particular sample. The data were deemed suitable for factor analysis on the basis of the KMO statistic (.91) and Bartlett’s Test of Sphericity (< .001). Results provided clear support for the proposed two-factor structure of the PANAS, as indicated by the Eigenvalues (> 1) and Scree plot (see Figure 120). The two-factor solution showed simple structure, with items loading on either the Positive or Negative Affect factor and there were no cross-loadings. All factor loadings exceeded .6 and communalities were greater than .4. This solution accounted for 51% of the variance in the 20 items and was in line with the literature concerning this well-established instrument.

Figure 120: Scree Plot for PANAS Factors

The Satisfaction with Life Scale (SWLS)

Consistent with the methodology of the scale authors (Diener et al., 1985), the present study employed a PAF to investigate the latent structure of the SWLS. The single factor structure was supported. One factor was clearly identified by the Eigenvalues and Scree plot. The item communalities for this solution exceeded .4 and factor loadings were greater than .6. This single factor, referred to as Satisfaction with Life, accounted for 64% of the variance in the five items.
Psychological Well-Being Scale

Having acknowledged that conducting an EFA on Ryff’s (1989; Ryff & Keyes, 1995) 18-item PWB scales is not an optimal mode for assessing the factor structure of this scale (see 7.2.5), the result of such an analysis in this large data set was nonetheless of interest. It was however not expected that the six factors would be clearly inferred. The data were first deemed suitable for the factor analysis, as indicated by the KMO (.89) and Bartlett’s Test of Sphericity (< .001). Factors were extracted via a Maximum Likelihood extraction and Direct Oblimin oblique rotation to account for the expected correlations between the factors. The Scree plot identified a clear single factor, however there was some, albeit minimal evidence for a six-factor solution, with these presented before a second elbow in the Scree (see Figure 124). The eigenvalues displayed the dominant first factor (5.08) and a further second factor that met the > 1 criterion (1.27). Although not strongly suggested by the data, the analysis was repeated with the imposition of a six-factor solution in keeping with the scale’s theoretical origins.

The six-factor solution approached simple structure but did not replicate Ryff’s model (1989; Ryff & Keyes, 1995). Although each of the six factors contained at least two significant loadings and there were no cross-loadings, items did not group together on the factors as expected. There was just one factor (Factor 5 – Autonomy) that was preserved in the analysis with its three allocated items (7, 1, 13). Aside from this, Factor 1 contained two Self-Acceptance items and one Environmental Mastery item. Factor 2 comprised two of the items from Positive Relations with Others. Factor 3 included one item from Personal Growth and one item from Purpose in Life. Factor 4 contained two Personal Growth items and one item from Positive Relations with Others. Factor 6 included two items from Environmental Mastery and two items from Purpose in Life. The item communalities were however all reasonable, with most > .4 and the solution accounted for 47.7% of the total item variance. A series of alternate analyses were conducted (including PCA with Varimax, PCA with Oblimin, PAF with Promax, PAF with Oblimin and ML with Varimax) in order to assess whether this scale’s proposed six-factor model could be inferred using EFA. The solution described above was the closest replication and was not greatly improved by these alternate factor extraction and rotation combinations.
Figure 121: Scree Plot for PWB Factors
Appendix F. Gender differences in responses to Study 2 survey instruments

One-way between groups analysis of variance (ANOVA) was used to examine the gender differences in responses to the study independent and dependent variables. The scale means and standard deviations according to participant gender are presented in Table 27 below.

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Scale</th>
<th>Women</th>
<th>Men</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
</tr>
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<tbody>
<tr>
<td>API</td>
<td>Neuroticism</td>
<td>27.66**</td>
<td>8.28</td>
<td>25.88</td>
<td>7.68</td>
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<tr>
<td></td>
<td>Extraversion</td>
<td>33.71**</td>
<td>7.39</td>
<td>32.35</td>
<td>7.60</td>
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</tr>
<tr>
<td></td>
<td>Openness</td>
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<td>Agreeableness</td>
<td>38.32***</td>
<td>5.96</td>
<td>36.00</td>
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<td>Conscientiousness</td>
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<td>6.98</td>
<td>34.15</td>
<td>6.88</td>
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<td>K10</td>
<td>Psychological Distress</td>
<td>21.03</td>
<td>8.01</td>
<td>22.17*</td>
<td>8.43</td>
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<tr>
<td>PANAS</td>
<td>Positive Affect</td>
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<td>32.35</td>
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<td></td>
<td>Negative Affect</td>
<td>20.64</td>
<td>8.39</td>
<td>21.55</td>
<td>8.84</td>
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<tr>
<td>SWLS</td>
<td>Satisfaction with Life</td>
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<td>21.43</td>
<td>7.00</td>
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<td>Ryff</td>
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<td>Environmental Mastery</td>
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<td>Personal Growth</td>
<td>12.36**</td>
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<td>Purpose in Life</td>
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<td></td>
<td>Ryff Total</td>
<td>67.84***</td>
<td>10.20</td>
<td>65.42</td>
<td>9.49</td>
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</tr>
</tbody>
</table>

*p < .05  **p < .01  ***p < .001  
N = 924

*Australian Personality Inventory (API)*

There were significant gender differences in 4 of the 5 personality scales measured with the API. Women scored significantly higher on each of these scales, which included: N [F(1, 922) = 10.14, p < .01]; E [F(1, 922) = 6.90, p < .01]; A [F(1,
922) = 3.05, \( p < .001 \); and C \( [F(1, 922) = 26.23, \ p < .001] \). The size of these effects, calculated using eta squared, were small however (in order of presentation: .01; .007; .03; .03).

*Generalised Psychological Distress (K10)*

The ANOVA indicated that males in this sample reported significantly higher levels of generalised psychological distress, \( F(1, 922) = 4.05, \ p < .05, \eta^2 = .004 \).

*Positive and Negative Affect Schedule (PANAS)*

There were no significant gender differences in level of Positive or Negative Affect in this sample.

*Satisfaction with Life Scale (SWLS)*

The women in this sample reported significantly higher levels of Satisfaction with Life, \( F(1, 922) = 12.68, \ p < .001, \eta^2 = .01 \).

*Psychological Well-Being (Ryff)*

The ANOVA identified significant gender differences in overall level of Psychological Well-Being, as measured by the Ryff Total Score. Women were significantly higher on this scale, \( F(1, 922) = 12.36, \ p < .001, \eta^2 = .01 \). The females in this sample also scored significantly higher on 4 of the 6 individual subscales, including: Personal Growth, \( F(1, 922) = 8.47, \ p < .01 \); Positive Relations with Others, \( F(1, 922) = 39.52, \ p < .001 \); Self-acceptance, \( F(1, 922) = 8.21, \ p < .01 \); and Purpose in Life, \( F(1, 922) = 8.67, \ p < .01 \). The eta squared effect sizes were small: .009; .04; .009; .009.
Appendix G. Study 1 single administration group plain language statement

AN INVESTIGATION OF THE RELATIONSHIP BETWEEN REGULATION OF MOODS AND EMOTIONS AND WELL-BEING

Sarah Buckingham – PhD Candidate; Dr Greg Murray and Professor Mike Kyrios – Supervisors

Thank you for agreeing to participate in this research project, which is part of our investigation of the strategies that people use to regulate their moods and emotions. The present study is designed to develop a new self-report questionnaire that can be used to measure how often people use particular regulation strategies and the impact of these strategies on well-being.

Participation in this study involves completing the following survey, which will take approximately 5 minutes of your time. The survey contains two measures, one of which will ask you to rate the extent to which you use particular mood regulation strategies, the other will ask some questions concerning your mood and feelings over the past week. There will also be some general questions, asking about your age, gender, education and occupation. It would be greatly appreciated if you could respond to all of these sections as without all of the requested information, the analyses underlying this research will not be possible. There are no right or wrong answers on any of the items. Do not spend too long on any one item – it is your first response we are interested in.

Your responses to this questionnaire are completely confidential and anonymous. There will be no identifying information accompanying your answers, so that the researchers and other individuals reading the final analysis will have no way of identifying the individuals involved in the study. If the research is published in an academic journal, only group data will be reported, such that no individual responses will be examined, and anonymity will be maintained.

While you have initially agreed to participate in this study, you are entitled to withdraw your participation at any time, and although unlikely given the nature of the topics being explored, please do so if any feelings of discomfort arise. If this research does raise issues which you would like to discuss with a professional, please contact the Swinburne Psychology Clinic on (03) 9214 8653, which operates on a low cost fee-for-service basis. Alternatively, you could contact Lifeline on 131 114 for telephone counselling or the Australian Psychological Society on (03) 8662 3300 for information and referral.

If you have any general questions about the study, please feel free to contact the senior investigator, Dr Greg Murray, by email: gwm@swin.edu.au or phone: (03) 9214 8300.

If you have any concerns about the conduct of this research project, you can contact: Research Ethics Officer, Office of Research and Graduate Studies (H68), Swinburne University of Technology, P O Box 218, HAWTHORN VIC 3122 or phone (03) 9214 5218.

Thank you for your assistance in this research. Please retain this information page for your records.
Appendix H. Study 1 test retest administration group plain language statement

AN INVESTIGATION OF THE RELATIONSHIP BETWEEN REGULATION OF MOODS AND EMOTIONS AND WELL-BEING

Sarah Buckingham – PhD Candidate; Dr Greg Murray and Professor Mike Kyrios – Supervisors

Thank you for agreeing to participate in this research project, which is part of our investigation of the strategies that people use to regulate their moods and emotions. The present study is designed to develop a new self-report questionnaire that can be used to measure how often people use particular regulation strategies and the impact of these strategies on well-being.

In order to develop and validate this questionnaire, participants are asked to complete the following survey on two different occasions. This would allow for testing how effectively the new measure captures your mood regulation habits over time. The two administrations of the questionnaire will take place one month apart and will require approximately 5 mins of your time on each occasion.

The survey that follows contains two measures. One of these will ask you to rate how often you use particular mood regulation strategies, and the other will ask some questions concerning your mood and feelings over the past week. There will also be some general questions, asking about your age, gender, education and occupation. It would be greatly appreciated if you could respond to all of these sections as without the requested information, the analyses underlying this research will not be possible. There are no right or wrong answers on any of the items. Do not spend too long on any one item – it is your first response we are interested in.

Your involvement in this study is voluntary and confidential. In order to match the data you provide at Time 1 and Time 2, a 4-digit code will be allocated to your email address. You will receive two brief emails from the student investigator of this project (Sarah Buckingham), prompting you to visit the online site to complete the questionnaire and informing you of your allocated 4-digit code. You will be required to enter this code at the commencement of the two questionnaires you will complete. After the second reminder email has been sent, the data file containing your email address and 4-digit code will be deleted. This will be done before any data analysis takes place, so that your questionnaire material is deidentified and submitted anonymously. In this way, researchers and other individuals reading the final analysis will have no way of identifying the individuals involved in the study. In the event of the research being published in an academic journal, only group data will be reported and anonymity will be maintained.

While you have initially agreed to participate in this study, you are entitled to withdraw your participation at any time, and although unlikely given the nature of the topics being explored, please do so if any feelings of discomfort arise. If this research does raise issues which you would like to discuss with a professional, please contact the Swinburne Psychology Clinic on (03) 9214 8653, which operates on a low cost fee-for-service basis. Alternatively, you could contact Lifeline on 131 114 for telephone counselling or the Australian Psychological Society on (03) 8662 3300 for information and referral.
If you have any general questions about the study, please feel free to contact the senior investigator, Dr Greg Murray, by email: gwm@swin.edu.au or phone: (03) 9214 8300.

If you have any concerns about the conduct of this research project, you can contact: Research Ethics Officer, Office of Research and Graduate Studies (H68), Swinburne University of Technology, P O Box 218, HAWTHORN VIC 3122 or phone (03) 9214 5218.

Thank you very much for your assistance in this research. Please retain this information page for your records.
Appendix I. Study 1 participant recruitment advertisement

Psychology research: A two-stage study on responses to moods and emotions

Investigators: Sarah Buckingham (PhD Candidate), Dr Greg Murray and Professor Mike Kyrios (Supervisors)

Thank you for considering this project, which is seeking to develop a self-report questionnaire that can be used to assess the ways people choose to regulate their moods and emotional states. It is hoped that this questionnaire will advance our understanding of how we can improve our well-being through daily responses to moods and emotional states.

This is a “two-stage study” because data will be collected at two points in time. We need information about how your responses to the questionnaire might change over time. Therefore, participants are asked to complete a quick questionnaire (taking approximately 5 minutes) on two separate occasions, one month apart.

If you agree to take part in this voluntary study, you will be asked to provide your email address. If you do so, you have consented to receive two brief emails from the student investigator of the project (Sarah Buckingham). These emails will simply prompt you to visit the internet site where the questionnaire is located. You will then complete and submit the questionnaire online.

Your involvement in this study is voluntary and confidential. In order for the data you provide to be matched from Time 1 and Time 2, a 4-digit code will be allocated to your email address. When you receive the two emails prompting you to complete the online survey, you will also be informed of the code that has been allocated to you. You will then be required to enter this code at the commencement of the two questionnaires you complete. The electronic data file containing your email address and allocated 4-digit code will be stored on a password-protected computer and will be seen only by the student investigator of the study. After the second email reminder has been sent, this file will be deleted. This will occur before any data analysis takes place, so that your questionnaire material has been deidentified, and will be analysed anonymously.

If you have any general questions concerning this study, please contact Sarah Buckingham via email: sarah@buckingham.id.au.

If you have any concerns about the conduct of this research project, you can contact: Research Ethics Officer, Office of Research and Graduate Studies (H68), Swinburne University of Technology, P O Box 218, HAWTHORN VIC 3122 or phone (03) 9214 5218.

If you consent to participate in this study, please insert your email address below and detach this section. For your information, your email details recorded below will be shredded and discarded once they have been entered into the password-protected electronic data file.

Please retain the above information page for your records.

-----------------------------------------------------------------------------------------------------------------
By providing my email address below, I consent to participate in this study and to receive two emails prompting me to complete the questionnaire online.

Email: ……..
Appendix J. Study 1 research survey instrument

RESEARCH SURVEY

AN INVESTIGATION OF THE RELATIONSHIP BETWEEN REGULATION OF MOODS AND EMOTIONS AND WELL-BEING

Sarah Buckingham – PhD Candidate
School of Psychology
Swinburne University of Technology

Supervisors: Dr Greg Murray; Professor Mike Kyrios
### Part One: DEMOGRAPHIC QUESTIONS

1. **What is your gender?** *(please tick)*
   - Male [ ]
   - Female [ ]

2. **What is your age (in years)?** [ ] [ ]

3. **What is your country of birth?** *(please tick one box only)*
   - Australia [ ]
   - New Zealand [ ]
   - Vietnam [ ]
   - England [ ]
   - Italy [ ]
   - Other - please specify: [ ]
   - Scotland [ ]
   - Greece [ ]

4. **What is your current marital status?** *(please tick one box only)*
   - Never married [ ]
   - Widowed [ ]
   - Divorced [ ]
   - Separated [ ]
   - Married (including de facto) [ ]

5. **What is your current employment status?** *(please tick one box only)*
   - Employed – Full time [ ]
   - Employed – Part time [ ]
   - Unemployed – Looking for work [ ]
   - Not employed – Not looking for work [ ]

6. **What is your highest level of educational achievement?** *(please tick one box only)*
   - Completed primary school [ ]
   - Completed secondary school [ ]
   - Completed TAFE or apprenticeship [ ]
   - Completed tertiary undergraduate education [ ]
   - Completed tertiary postgraduate education (eg PostGrad Diploma, Masters, PhD) [ ]

7. **Are you currently studying for a qualification?** *(please tick one box only)*
   - Studying - Full time [ ]
   - Studying – Part time [ ]
   - Not currently studying for any course [ ]

---

**Your 4-digit identification code:** *(if applicable)*

..........................................................
Part One: AFFECT REGULATION STRATEGIES

This section includes a measure that asks you questions concerning your usual practices of changing or regulating your moods and emotions. By circling a response from the options provided, please indicate the extent to which you adopt the following strategies to try to improve your moods and emotions (e.g., when you try to get out of a bad mood or maintain or enhance a good mood).

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Very frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Call, talk to, or be with someone.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Control thoughts (e.g., think positively, concentrate on something else, don’t let things bother me, give myself a “pep talk.”)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Evaluate or analyse the situation to determine the mood cause.</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>4. Try to put feelings in perspective.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Exercise.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Listen to music.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Engage in emotional activity (e.g., cry, scream).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Engage in pleasant (fun) activities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Watch TV (e.g., movie).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Use relaxation techniques (e.g., deep breathing, stretching &amp; bending, muscle relaxation, massage, visualisation).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Eat something.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Drink coffee or other caffeinated beverage.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Have sex.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Engage in stress management activities (e.g., get organised, plan ahead, make lists).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If there are any strategies that you regularly use (at least once per week) for regulating your moods and emotions that are not included here, please state:

..................................................................................................................................................................................................................................................................................................................................................................................
### Part Two: Mood

This final measure consists of 20 words that describe feelings and emotions. By circling a response from the options provided, please indicate to what extent you have felt this way *during the past week*.

<table>
<thead>
<tr>
<th></th>
<th>Very slightly or not at all</th>
<th>A little</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interested</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Distressed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Excited</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Upset</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Strong</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Guilty</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Scared</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Hostile</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Enthusiastic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Irritable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Alert</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ashamed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Inspired</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Nervous</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Determined</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Attentive</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Jittery</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Active</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Afraid</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

The questionnaire is now complete. Thank you for your participation in this research.
## SECTION A: GENERAL INFORMATION

**PROJECT FULL TITLE**
An investigation of the relationship between regulation of moods and emotions and well-being.

**SHORT TITLE**
(If applicable)

### APPLICANT DETAILS

**RESPONSIBLE SWINBURNE FIRST INVESTIGATOR / SUPERVISOR**
(Where project is part of student research degrees or dissertations, Senior Swinburne Supervisor must still be listed as the first investigator)

<table>
<thead>
<tr>
<th>Name &amp; Title/Position:</th>
<th>Dr Greg Murray, Senior Lecturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tel No(s)</td>
<td>(03) 9214 8300</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:gwm@swin.edu.au">gwm@swin.edu.au</a></td>
</tr>
<tr>
<td>Fax</td>
<td>(03) 9819 0574</td>
</tr>
</tbody>
</table>

Faculty / School / Centre / Institute: Faculty of Life and Social Sciences

Swinburne Status: ☒ Swinburne Staff Member ☐ Adjunct Staff Member

Address for correspondence: Faculty of Life and Social Sciences, Swinburne University of Technology, PO Box 218 John St., Hawthorn 3122 AUSTRALIA

Please complete as clearly as possible. (For Honours, higher degree and discrete student projects.)

**Main Student Investigator(s):**

<table>
<thead>
<tr>
<th>Name &amp; Title/Position:</th>
<th>Sarah Buckingham</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td><a href="mailto:sarah@buckingham.id.au">sarah@buckingham.id.au</a></td>
</tr>
<tr>
<td>Tel No(s)</td>
<td>0409 140 555</td>
</tr>
</tbody>
</table>

Student ID Number: 4026462

Fax: 9571 7004

Degree Being Undertaken: Doctor of Philosophy

List below the names of other Chief/Associate Investigators and Research Assistants (including those with access to identifiable data).

(Add (copy/paste) cells as required for additional investigators/assistants. Append Student lists for class projects.)

**Name & Title:** Professor Mike Kyrios, Professor of Psychology, Director, Swin-PsyCHE Research Unit

Institutional Address: Swinburne University of Technology, Applied Sciences Building, Room AS302, Burwood Rd, Hawthorn, 3122

**Name & Title/Position:**

Institutional Address:

<table>
<thead>
<tr>
<th>Proposed Period During Which Human Research Activity Requiring Ethics Approval is Needed:</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dd</td>
<td>mm</td>
</tr>
<tr>
<td></td>
<td>yyyy</td>
<td>dd</td>
</tr>
<tr>
<td></td>
<td>mm</td>
<td>yyyy</td>
</tr>
</tbody>
</table>

(Double-click on ☐ YES/NO ‘check box’ to select box, then enter Default Value as Checked ☒ or leaving as Not Checked ☐)
### Type of Activity
(Select as many boxes as applicable)

- Research by Staff Member
- Supervised Postgraduate Research
- Supervised Undergraduate Research
- Contract Research (Attach copy of contract)
- Supervised Class Projects

Subject Code & Short Title:
No of students involved:

### Broad Category of Research
Select one category box which best fits the application:

- Social/Cultural/Humanities
- Business/Management
- Education/Training/Program Evaluation
- Psychological/Brain/Neuro-sciences
- Health/Safety
- Engineering/Science/Technology
- Other (please specify) ……………………………………………………

[** For research involving Clinical Trials or Ionising Radiation, please contact the Research Ethics Officer.]

### Official Use Only:
- Higher Risk/Impact
- Minimal Risk/Low Impact Research Only
- SUHREC
- SHESC (HBS - A / B)
- SHESC (SBT - A / B)
- Other
- Notification Only

### Human Research Risk/Review Classification
 Nb Checking to be consistent with published risk criteria.

To enable a determination as to whether prima facie your research activity is Minimal Risk and/or Low Impact, please clarify by selecting [X] any one or more boxes below as to whether your research activity involves:

[Double-click on YES /NO 'check box' to select X by entering in Default Value as Checked or leaving as Not Checked]

- Vulnerable participants, children or those dependent on care*
- Indigenous Peoples* or Special Cultural/Ethnic groups
- Externally funded research requiring HREC-level clearance*
- Multi-centre/Other sites requiring HREC-level approval*
- Research conducted overseas
- Conflicts of interest or dual researcher-professional roles
- Data access/use without an individual’s prior consent*
- Data access/use subject to statutory guidelines &/or reporting*
- Identification of participant individuals/groups in research outcomes without full consent or there is unclear consent for this*
- Sensitive information/issues vis-à-vis context/impact (legal*, regulatory compliance*, commercial, professional, cultural, etc)
- Personally intrusive/confronting or quite inconvenient/embarrassing questioning or other activity
- Physically confining/invasive techniques or significant physical contact/stimulation (TMS*, X-ray*, CT scan*, MRI*, clothing change, etc)
- Working in hazardous environments (asbestos dust*, infectious disease*, war or civil strife*, etc)
- Handling hazardous substances (eg, asbestos*, radioactive material*, explosives*, etc) or equipment
- Administration of medical/herbal substances*/treatments*
- Administration of other (non-medical) substances/treatments
- Health/medical diagnosis*/therapy*
- Non-minimal impact therapeutic or other devices*/activity*
- Screening for healthy participant inclusion/exclusion
- Medical or psychiatric assessment/conditions*
- Serious psychological profiling, investigation or exploration
- Withdrawal of treatment/services or use of placebo
- Withdrawal/substitution of educational/professional/commercial/recreational/other programs or services
- Deception or covert observation
- Limited or non-disclosure of research information/procedures
- Participant recruitment/selection via third party
- Human research activity commenced without clearance
- Participation incentives, prizes or significant payments
- Research placing researchers/assistants at risk

PLEASE NOTE: If you have selected any one or more of the above boxes, your project will ordinarily be put for SUHREC ethical review. Items above marked * must be put to SUHREC proper. But in other cases, you may
wish to put a case for expedited review by a SUHREC Sub-Committee (SHESC) in the (expandable) box below in relation to the criteria for determining risk/impact. If you put forward a case, then in the first instance your application will be put to the relevant SHESC; however, the relevant SHESC may still consider the project needs full SUHREC appraisal or SUHREC may review or override the SHESC decision.

<table>
<thead>
<tr>
<th>Risk/Impact Checked with a Research &amp; Ethics Advisor (REA)?</th>
<th>Yes ☐</th>
<th>No ☒</th>
<th>REA Comment, Initials &amp; Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

...........................................................................................................................................
1.13 Every research proposal must demonstrate that the research is justifiable in terms of its potential contribution to knowledge and is based on a thorough study of current literature as well as prior observation, approved previous studies, and where relevant, laboratory and animal studies.

1.14 All research proposals must be so designed as to ensure that any risks of discomfort or harm to participants are balanced by the likely benefit to be gained.

1.15 Research must only be conducted using facilities appropriate for the research and where there are appropriate skills and resources for dealing with any contingencies that may affect participants.

A1 WHY IS THE PROJECT TO BE UNDERTAKEN

Summarise in sufficient detail why the project is being undertaken. If references are quoted, full citations should be given. Include the educational and/or scientific aims of the project. (boxes will expand for your text)

The aim of this project is to develop and validate a brief self-report questionnaire for investigating the strategies adopted by individuals when seeking to regulate their moods and emotional states. Further, it is hoped that this research can make a valuable contribution to the affect regulation literature, which is currently lacking in a comprehensive, self-report assessment tool that captures the strategies employed by individuals.

A2 WHAT - BRIEF DESCRIPTION OF PROJECT

In plain English

The study is designed to develop a new self-report assessment tool that can be used to measure how often people use particular mood and emotion regulation strategies and the effectiveness of these strategies. The psychometric properties of an existing set of self-report items (developed on the basis of our previous research) will be investigated in a general population sample.

A3 HOW - PROCEDURES

Please detail clearly and sufficiently the proposed research/statistical method(s), procedures and instruments to be used in the project, including all screening and research ‘procedures’ to which the participants will be subjected, and asterisk those which may have adverse consequences.

Please include as appendices all screening instruments, questionnaires, interview protocols etc (at least in draft form if not finalised).

Participants in this study will complete a brief questionnaire that contains 2 measures and a small number of demographic questions. Specifically, the questionnaire includes: a 15-item adapted version of Thayer’s (1994) mood self-regulation inventory (to be developed into the new measure that is the focus of this study), the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988), and questions concerning age, gender, country of birth, marital status, employment status, highest level of educational achievement and whether the respondent is currently studying for a qualification. This questionnaire will be completed either online or in paper-and-pencil format.

There will be two ‘types’ of participation in this study:

(1) Single administration - respondents complete the questionnaire anonymously, on just one occasion, either online or in paper form. Paper copies of the questionnaire will be returned via a stamped, self-addressed envelope or for those paper copies completed by Swinburne students, these may be returned via a marked box in a University building.

(2) Multiple administration – respondents complete the questionnaire online on two different occasions, separated by a one-month interval. The data obtained from these participants will allow for test-retest reliability analyses to be conducted on the new measure. The procedure for conducting the multiple administration, will be as follows:

   (1) Potential participants will be approached concerning involvement in this “two-stage” study. They will be given an information flyer (attached to this application, see p19) documenting relevant details of the study, what their involvement would entail and overing that while some personal details will be obtained for the purposes of contacting them to complete the survey, their right to privacy and confidentiality will be preserved and all data obtained will be analysed in an anonymous fashion.

   (2) At the end of this information flyer, participants are asked to provide their email address, and are instructed that by doing so, they are consenting to participate in the project.

   (3) The student investigator will compile an email list, based on the addresses obtained through the above process. Each email address will be allocated a 4-digit code. A standard brief email will be sent individually to each participant that prompts them to visit the online site to complete the survey and informs them of the code they will be required to enter at the commencement of the questionnaire. Two of these emails will be sent to participants, approximately one-month apart.

   (4) During the process of collecting this data, the participant email list that includes identification codes, will be stored electronically, on a password-protected data file held on the SUT main drive. After sending the second and final email to participants, this address list will be no longer needed, and so the electronic file will be deleted. This will be done before any analyses are undertaken, ensuring that the data received from the online site is deidentified and anonymous.

If you feel that it is necessary to include further material, please append.

A4 DESCRIBE ANY RISK THAT MAY ARISE TO THE PARTICIPANT / DONOR?

Risk to participants (and to researchers) can be real but does not need to be physical. Risk includes such as self esteem, regret, embarrassment, civil or criminal liability, disease, physical harm, loss of employment or professional standing, etc. Please consider...
To the Participant (what and how so)

Ethical principles would require that benefits flowed from the activities - but please avoid grandiose claims.

Please describe the risk you perceive and the protective measures to be taken.

No risk above the everyday is expected.

A5 DESCRIBE ANY RISK THAT MAY ARISE TO THE RESEARCHER / ADMINISTRATOR?

Some research activities may put the researcher at risk through what is being done or simply through their participation.

Please describe the risk you perceive and the protective measures to be taken.

No risk to the researcher is expected.

A6 WHAT BENEFITS ARE ANTICIPATED FROM THE PROJECT

Ethical principles would require that benefits flowed from the activities - but please avoid grandiose claims.

(a) To the Participant (what and how so)

Participants may gain some insight into the nature of psychological research, and the way in which a self-report inventory is developed and validated (via the process of completing the survey twice for checking how reliable it is over time).

Completing the questionnaire will also inform them of some of the identified ‘strategies’ that people employ when regulating their moods and emotions, and the way in which mood can be measured.

(b) More generally (to society, profession, knowledge, understanding, etc, and how so.)

The primary aim of this study is to develop a brief, comprehensive, psychometrically sound, self-report assessment tool for capturing the way in which individuals regulate their moods and emotional experiences. This would be of benefit to the affect regulation literature, which is currently lacking in this type of measure, and would be of use for future studies seeking to explore: strategies used by individuals; outcomes of these strategies, and personality and other individual difference variables that influence which strategies are used. In essence, the generation of knowledge in this particular area of literature is currently hindered by the lack of a consensual model and measurement tool, and it is hoped that this study is also to make some contribution in this regard.

A7 POTENTIAL PROBLEMS

From time to time in the course of a research project important information, such as an individual found to be at risk, or entirely unforeseen events may come to pass. What procedures are in place to handle unexpected or particularly significant personal or other information that may come to light through the project, eg, unknown medical/psychiatric condition, a particularly distressed participant, civil or criminal liability, etc.

The questionnaire administered to participants will advise them that they are free to withdraw from the study at any time, and should do so if feelings of discomfort arise. It will contain contact details of all researchers involved in the investigation to whom they can direct questions or concerns, as well as details of the Swinburne Ethics Committee to whom queries and complaints about the study can be directed. This referral information will be provided in the plain language cover sheet. The cover sheet will also contain details of counselling and support services that can be accessed should any distress arise as a result of participating in this project and completing the questionnaire.

For those participants engaged in the ‘multiple’ survey administration process, they will be informed of the nature of this study and what their participation would entail, when they are first approached via the information flyer and when they access the survey online via the plain language cover sheet. Both of these information statements will contain the contact details for addressing questions and concerns about the study, and for accessing professional support should any distress arise while participating in this project.

A8 PROFESSIONAL/ETHICAL ABILITY & TRAINING (Researchers/Students/Assistants)

(a) Sufficiently detail what investigators/assistants will do in this project and their expertise/competence to do so.

The main student investigator (Sarah Buckingham) will be responsible for the collection and management of data that is obtained for the purposes of this project. She will approach potential participants concerning involvement in the study, will be responsible for handing out questionnaires and details of the internet website where the questionnaire can also be completed, and will collate the paper copies and internet surveys in order to complete the data entry process. She will be responsible for conducting the multiple survey administration process, and will manage the personal details obtained from participants (email addresses) in a confidential fashion. Sarah successfully completed a Bachelor of Arts (Honors) in 2006 which required that she undertake these sorts of research tasks for her thesis, and training in ethical practice and the necessary communication skills was also provided during this course.

The Swinburne staff supervisors involved in this project (Dr Greg Murray and Professor Mike Kyrios) have a wealth of experience and expertise in teaching, clinical and research endeavours and will be available to instruct Sarah through any issues or dilemmas that may arise during the process of collecting data for this project.

(b) Sufficiently detail any further training/qualifications required for investigators/assistants to carry out the project.

355
A9  **FUTURE USE OF DATA**
Will any of these data be used by yourself, your students or others for any purpose other than for this project as described in the protocol? If so please describe.

N/A

A10  **EXTERNAL INVOLVEMENT**
Is a body external to Swinburne involved in initiation or support of the project?
- **Yes**  Name of body/organisation:  
- **No**

If an external body is associated with the project you must provide the HREC with detail of the arrangements, including details of any funding or other resources being provided. A copy of relevant pages from the contractual arrangements should be attached.

A11  **EXTERNAL APPROVALS**
Projects involving other organisations or entities may require approval from other institutions or their ethics committees, etc. for such things as access to prospective participants, contact lists, data, facilities, etc. A copy of such approvals may be required to be provided to the HREC at the time of application or be made available as soon as possible. In which case, the project may not commence, until such evidence is provided.

Please indicate, as appropriate, if formal clearance/permission has been obtained or sought:
- **Institutional**  Yes [ ]  Documentation Attached [ ] or to follow [ ]
- **Next of Kin (for special groups)**  Yes [ ]  Documentation Attached [ ] or to follow [ ]

(estimate when likely to be obtained)

- **No**  (please explain)

N/A

A12  **RESEARCHER / SPONSOR RELATIONSHIP**
Is there any relationship or association between the sponsor and any of the researchers listed in Section A of this form, for example are any of the researchers directors, officers, employees, shareholders or promoters of the sponsor or do they receive any personal benefits from the sponsor under any other contracts or arrangements?
- **No**
- **Yes** (please explain the relationship(s), including how a vested or a conflict of interest situation does not arise.)
SECTION B: ETHICAL ISSUES OVERVIEW

B ETHICAL ISSUES

[Double-click on YES/NO 'check box' to select box, then enter Default Value as Checked [✓] or leaving as Not Checked [☐]]

(a) Non-/Limited Disclosure or Deception: Is any detail in relation to research purposes, methods or questions being withheld from participants? Or will deception of any kind be involved? Or any covert/undeclared observation? (Refer National Statement Chap 17)

(b) Does the data collection process involve access to confidential personal data (including access to data provided for a purpose other that this particular research project) without the prior consent of subjects?

(c) Will participants have pictures taken of them, e.g., photographs, video recordings?
   If "YES", please explain how you intend to retain confidentiality and ultimately dispose of the material.

(d) If interviews are to be conducted, will they be record by electronic device?
   If "Yes", please explain how you intend to retain confidentiality and ultimately dispose of the material.

(e) Will participants be asked to perform any acts or make statements which might compromise them, diminish self esteem or cause them embarrassment or regret (minimal, moderate or significant)?

(f) Might any aspect of your study reasonably be expected to place the participant at risk of criminal or civil liability (not just immediately or directly)?

(g) Might any aspect of your study reasonably be expected to place the participant at risk of damage to their professional/social/cultural/financial standing or employability?

(h) Will the research involve access to data banks subject to privacy legislation?*
   (NOTE: Annual reporting to Government may be required on this item. For info: please contact the Research Ethics Officer.)

(i) Will participants come into contact with any equipment which uses an electrical supply in any form e.g., audiometer, biofeedback, electrical stimulation, magnetic stimulation, etc.? If "YES", please outline below what safety precautions will be followed.

(j) Will any treatment be used with potentially unpleasant or harmful side effects?

(k) Does the research involve any stimuli, tasks, investigations or procedures which may be experienced by participants as stressful, noxious, aversive or unpleasant during or after the research procedures?

(l) Will the research involve the use of placebo control conditions or the withholding/substitution of treatment, programs or services (health, educational, commercial, other)?

(m) Will any samples of body fluid or body tissue be required specifically for the research which would not be required in the case of ordinary treatment?

(n) Will participants be fingerprinted or DNA "fingerprinted"?

(o) Are there in your opinion any other ethical issues involved in the research?

NOTE: If the answer to any of the above questions is "yes", please explain and justify below in sufficient clear detail. (The box below will expand to fit your response.)

The primary ethical issue in this project concerns the test-retest data collection process. As personal details will be requested of participants (namely, email addresses), it will be important to be mindful of their rights to privacy and confidentiality, and to inform them of the way in which this will be upheld (participants will not have access to the email addresses of other individuals taking part, and the compiled address list with identification codes will be stored on a secure computer). Further, it will be important to inform participants that they will be submitting their questionnaire responses in an anonymous fashion, via the internet. These details will be provided to participants both when they are first approached regarding the study and on the plain language cover sheet. Finally, as the survey instrument being used in this research does not contain questions of a ‘sensitive’ or particularly personal nature, it is anticipated that participants will not experience distress as a result of completing these or taking part in this study experience.

Attach further documents if appropriate
C1 PARTICIPANT DETAILS

The composition of the participant group may, in some circumstances, distort and invalidate an outcome, and risks may arise through the composition of the participant group.

How many individual participants will be involved? (Number/number ranges for which approval is sought)

<table>
<thead>
<tr>
<th>Males</th>
<th>Females</th>
<th>Total participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>100</td>
<td>200</td>
</tr>
</tbody>
</table>

Over what range of ages?

From (youngest): 18  
To (Oldest): 60+

If there is a gender or age imbalance in the number of participants please explain why.

C2 RECRUITMENT

How will participants be recruited/selected?

Please outline the process in sufficient detail how this is to occur.

Note: Where participants are obtained from or through schools, hospitals, prisons or other institutions, appropriate institutional or other authority will probably be needed. If soliciting for participants by advertisement or poster please attach proposed copies or text.

(See also Project Information Consent Statements and Signed Consent Forms info at the end of this application form.)

<table>
<thead>
<tr>
<th>Single administration</th>
<th>Multiple administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>participants will be accessed via a ‘sample of convenience’, i.e., paper copies of the questionnaire and details of the internet-based questionnaire (web link) will be provided to Swinburne psychology undergraduate students as well as to friends and associates of the researchers, creating a snowball effect. It is hoped that approximately 100 individuals will be recruited for this aspect of the study.</td>
<td>these participants will comprise friends and associates of the researchers, who will be approached concerning participation in this “two-stage study” and informed of what participation would entail. If they consent to take part in this project and provide their email address, they will be contacted via email on two occasions (at the commencement of the data collection process and approximately one month later for the second administration) and prompted to visit the online questionnaire site.</td>
</tr>
</tbody>
</table>

C3 PRE-EXISTING CONDITIONS

In some situations an underlying medical or other significant condition of a participant may result in an otherwise relatively innocuous situation causing excessive stress and exacerbate the condition. Researchers must, therefore, be alert to such situations and be able to address the resulting issues.

Do participants have any medical or other significant condition of which you are aware, eg. diabetes, asthma, depression, epilepsy? What steps are in place to handle any resulting problems (you may need to correlate with A3, A4 and A7 of this form)?

N/A

C4 DISCLOSURE AND INFORMED CONSENT

How will participants be informed about the project in order to give valid consent:

- Consent Information Statement(s)/Letter(s) and Signed Consent Form(s) will be used. A copy must be attached to your application. A guide to consent instruments is given at the end of this form.
- Consent Information Statement(s)/Letter(s) and consent implied by return of anonymous questionnaire
- Verbal advice (Please explain how and why)
- Other (Please explain how and why)

For the participants involved in the multiple survey administration, an information flyer will be given that contains details of the study and requests that if they consent to take part, they complete and detach the below section and return this to the researcher. This section will state just their email address, as this is the only personal detail that is relevant/required for this study.

Copies of appropriate consent instruments must be attached to your application. Please consult the Guide to Human Research Informed Consent Instruments in carefully preparing informed consent instruments.
### C5 COMPENSATION
Consent to participate must be freely given and not induced through the level of reward, perceived reward, or power relationships.

Provide details of any financial or other reward or inducement being offered to subjects for participation. Indicate the source of the funds.

| N/A |

### C6 RELATIONSHIP TO INVESTIGATOR(S)
Free consent may be difficult to ensure if the participant is dependent upon the investigator for employment, assessments etc.

Some relationships cause special ethical issues to arise.

Are participants linked with the investigator through some particular relationship - eg. employees ultimately responsible to or superiors of the investigator, students of investigator, family members, friends etc.

| (Single survey administration) - some participants may be acquaintances of the researchers, however, the anonymity of the questionnaire ensures that this will not jeopardise confidentiality, and any paper questionnaires completed by these acquaintances will be returned via a stamped self-addressed envelope. |
| (Multiple survey administration) – these participants may also include acquaintances of the researchers, and as email addresses will be provided and 4-digit codes will be attached to these, they will be in this sense ‘identified’ to the student researcher responsible for sending the reminder emails. However, the data file that contains email addresses and allocated codes will be deleted before any data is analysed. Questionnaires are therefore submitted via the internet in a deidentified format. |

### C7 INVOLVEMENT OF SPECIAL GROUPS
Particular issues of consent may arise where special groups of participants are to be involved. There may be, for example, a need to obtain informed consent from persons other than the direct participant. Examples of such special groups include special cultural groups - eg. indigenous Australians; children and young persons (Guidelines section 4.2); groups with special circumstances - eg. persons with an intellectual or mental impairment (Guidelines s. 5)

Please identify and describe the nature of the groups and procedures used to obtain permission.

Note. Persons proposing research projects involving Indigenous Australians should consult with the relevant University manager of indigenous programs prior to finalising definition of the project.

| N/A |

### C8 PRIVACY
The University is subject to the Victorian Information Privacy and Health Records Acts as well as the Commonwealth Privacy Act and, in particular, the Information/Health/National Privacy principles (IPPs/HPPs/NPPs) set out therein and is required to report annually on projects which relate to or utilise particular records.

Does the research involves access to data which was collected by an organisation for its own purposes (ie. not specifically collected for this project) such as student records, other data banks, human pathology or diagnostic specimens provided by an institution/s?

If yes, please indicate source/s.

| N/A |

### C9 LOCATION OF STUDY
Please indicate where the research will be carried out. If the research will not be on University premises permission of owner / occupier may be required. If so, please indicate what authority or permission may be required and how will be obtained. **NB:** Where required, please attach to this application evidence of authority obtained or provide the Secretary, HREC as soon as practicable.

Questionnaires will be completed at a location that is convenient to the respondents, and for some participants, will take place where they have access to a computer.
SECTION D: DATA & PUBLICATION ARRANGEMENTS

PLEASE CONSIDER CAREFULLY YOUR RESPONSES TO THIS SECTION. YOU NEED TO BE CLEAR AS TO WHAT IS OCCURRING WITH RESPECT TO DATA COLLECTION, RETENTION and DISPOSAL.

(In your responses, you should demonstrate familiarity with National Statement requirements for confidentiality, relevant Privacy Principles and Swinburne’s Policy on the Conduct of Research, eg, Sect 4, see URL: http://ppd.swin.edu.au/eduproPolicyOnTheConductOfResearch.htm.)

D1 DATA COLLECTION/RECORDING

Please note that, with any information or data collected/retained, if any individual can reasonably be identified, the information can be deemed “personal information” or “health information” under National/Health/Information Privacy Principles (NPPs/HPPs/IPPs).

(a) How or in what form will data be collected/recorded?

Data will be collected in an online format or on paper copies of the questionnaire.

(b) As regards any individual, in relation to any data collection or retention, you need to acknowledge either or both of the following:

☐ An Individual can be identified OR is Potentially Identifiable / Re-Identifiable

(An individual can be identified at some point or by the very nature of the data collected/retained: at time of an interview, by signed consent form, identified or labelled voice or image recording, pen-and-paper questionnaire, on-line survey instruments, etc.

Whilst data may not have (explicit) identifiers, an individual's identity can still reasonably be worked out.

Or data may have (explicit) identifiers removed and replaced by codes that permit matching of an individual with the data collected/retained, in which case it is possible to identify or re-identify the person to whom the data relates.)

☐ An Individual is Non- or Un-identifiable

(Data collected/retained anonymously and with no reasonable possibility of being identified.)

Your acknowledgement may require further explanation or clarification; if so, please include in the following box.

As previously discussed, participants involved in the multiple survey administration will be identified in terms of their email address, for the purposes of sending reminder emails to visit the online questionnaire site. However, the questionnaire will be submitted using an allocated code number, and the file linking emails to code numbers will be held securely and deleted after the second email is sent and before the data is analysed.

Data collected from participants involved in the single survey administration will be anonymous, without reasonable possibility of this being identified at any stage.

D2 DATA SECURITY

Please note that “data must be held for sufficient time to allow reference. For data that is published this may be for as long as interest and discussion persists following publication. It is recommended that the minimum period for retention is at least 5 years from the date of publication but for specific types of research, such as clinical research, 15 years (or more) may be more appropriate.” (Sect 4.3 of Swinburne’s Policy on the Conduct of Research)

Please indicate how data (all types of data, including, eg, signed consent forms) will be securely retained (eg, electronic form in password-protected disk drive, locked filing cabinet, etc) and where? With more than one type of data, will the types be separately stored? In your explanation, you will need to make clear how due confidentiality and/or anonymity will be maintained.

(a) During the study

Paper copies of the questionnaire will be stored in a lockable cupboard. Questionnaires completed and submitted electronically will be stored as a password-protected data file held on the SUT main drive, as will all data files created during the process of conducting this study.

The electronic email address list generated for the multiple survey administration process will be stored as a password-
protected data file on the SUT main drive for the duration of the data collection process. After sending the second email reminder, before the data is analysed, this email address file will be deleted. In this way, participants are potentially identifiable for the duration of data collection but not thereafter. Any email address details recorded on the paper ‘information flyer’ will be stored in a lockable cupboard, until entered into the electronic file. After this time, the paper forms will be shredded and discarded.

(b) Following completion of study

The paper copies of the questionnaire will be stored in a lockable cupboard and electronic data will be stored as password-protected data files on the SUT main drive for at least five years as required. The electronic email address list will be deleted at the completion of the data collection process (before data analysis commences), as these personal details will not be needed after this time.

D3 PUBLICATION/OUTPUT ( Nb Section D3 Revised Aug 2007)

Please explain in sufficient detail:

(a) What, if any, publication (conference, news media, academic journal, other journal, etc) is envisaged following on or in relation to this project, both in terms of data proper and/or analysis of data?

(b) Will participants be informed about any envisaged research publication/outcome? (This information is normally to be included in the information given prior to obtaining informed consent.)

(c) Would any participants be able to be identified through the publication of data proper or research findings? If so, explain why this is necessary.

(a) It is hoped that academic journal publications will result from this project, including in such journals as Personality and Individual Differences, Cognition and Emotion, Behavior Research and Therapy and Cognitive Therapy and Research.

(b) Participants will be informed of the envisaged research publication on the plain language cover sheet, as well as of the maintenance of their anonymity in such publications.

(c) If the opportunity for publication arises, questionnaire responses would appear anonymously, in the same manner in which they were obtained, and as a result participants in this study would not be able to be identified.

D4 INDIGENOUS ISSUES

Storage arrangements for data relating to research into Indigenous matters must be determined in compliance with the Policy on the Conduct of Research after consultation with the communities involved.

What consultation has taken place and what arrangements have been made.

N/A

D5 OTHER ISSUES ( Nb Section D5 Revised Aug 2007)

Are there any other issue relating to data collection, retention, use or disclosure which the ethics committee should be made aware of and, if so, please explain how you are to deal with this.

(Eg. Research outcomes unduly impacting on any individual or group not directly participating, etc.)

N/A
SECTION E: SUBSTANCES & CLINICAL ISSUES

☐ No matters in this section are applicable to the study or

E1 ADMINISTRATION OF SUBSTANCES/AGENTS

<table>
<thead>
<tr>
<th>Name of substance(s)</th>
<th>Dosage per administration</th>
<th>Frequency of administration</th>
<th>Total amounts to be administered</th>
</tr>
</thead>
</table>

Anticipated effects:

NOTE: If the research involves administration of foreign substances or invasive procedures, please attach a statement accepting responsibility for those procedures by a medical or paramedical practitioner with Indemnity insurance.

☐ STATEMENT ATTACHED

E2 BODY FLUIDS OR TISSUE

What fluids or tissue? How will be samples be obtained?

Frequency and volume

How are samples to be stored?

How will samples be disposed of?

Who will take the samples?

What are their qualifications for doing so?

Do participants carry, as far as you know, the Hepatitis B or HIV virus? If so how will the risks be handled

Do participants carry, as far as you know, any other contagious diseases or viruses? If so how will the risks be handled
**SECTION F  DECLARATIONS**

With respect to this project, I / We, the undersigned Investigator(s)/Assistant(s) agree:

- To undertake human research activity or handle data confidentially in accordance with Swinburne requirements, including any standard or special ethics clearance conditions, under the proper direction of the responsible Swinburne manager and/or principal Swinburne (or other) researcher/supervisor.

<table>
<thead>
<tr>
<th>NAME: (block letters)</th>
<th>SIGNATURE:</th>
<th>DATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarah Buckingham</td>
<td></td>
<td>3/3/08</td>
</tr>
<tr>
<td>Dr Greg Murray</td>
<td></td>
<td>3/3/08</td>
</tr>
<tr>
<td>Professor Mike Kyrios</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All listed applicants must sign. The Chief Investigator/Supervisor is also responsible for personnel subsequently joining the project. Expand this table or duplicate this page as required. NB This information is subject to Swinburne or external audit.

**Please note that**

*PROJECTS MUST NOT COMMENCE WITHOUT PRIOR WRITTEN APPROVAL from the Human Research Ethics Committee (SUHREC) or its appropriate Subcommittee (SHESC)*

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**Declaration of Compliance by Chief Investigator(s)/Student Supervisor(s).**

I declare that the above project has been developed and will be conducted in accordance with relevant Swinburne standards, policies and codes of practice, including any standard or special conditions for on-going ethics clearance. I further declare that all listed and subsequently appointed researchers or assistants involved in this project will be made aware of the conditions of ethics approval as communicated to me, including approved documentation and procedures.

Signature & Date  
------------------
3/3/08

Name of Signatory & Position: Greg Murray, Senior Lecturer

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**Form checked by a Research & Ethics Advisor (REA)?**

Yes □  No  ☒  REA Initials & Date: _____________________________

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**Endorsement of Head of Academic Unit (or Delegate) or Above.**

I declare that this project: has been developed and will be conducted in accordance with relevant Swinburne standards, policies and codes of practice; and has research merit, adequate resourcing and appropriate leadership/supervision.
(Please note: This endorsement must be given by an authorised official who is not also a chief or co-investigator of the project and who is not also the supervisor of a student investigator with an interest in the project.)
Appendix L. Study 1 resubmitted sections of ethics application

The Australian National Statement on Ethical Conduct in Research Involving Humans - requires

1.13 Every research proposal must demonstrate that the research is justifiable in terms of its potential contribution to knowledge and is based on a thorough study of current literature as well as prior observation, approved previous studies, and where relevant, laboratory and animal studies.

1.14 All research proposals must be so designed as to ensure that any risks of discomfort or harm to participants are balanced by the likely benefit to be gained.

1.15 Research must only be conducted using facilities appropriate for the research and where there are appropriate skills and resources for dealing with any contingencies that may affect participants.

A1 WHY IS THE PROJECT TO BE UNDERTAKEN

Summarise in sufficient detail why the project is being undertaken. If references are quoted, full citations should be given. Include the educational and/or scientific aims of the project.

The aim of this project is to develop and validate a brief self-report questionnaire for investigating the strategies adopted by individuals when seeking to regulate their moods and emotional states. The need for such a questionnaire is evident by the current state of literature in this field: researchers are employing a number of disparate measurement tools for examining affect regulation strategy use, making it difficult to compare findings across studies and hindering the building of knowledge in this area as a result.


The present study seeks to address two major limitations of such existing measures. First, a number of these scales include only a small number of regulation strategies, and second, comprehensive analysis of an individual’s strategy usage and effectiveness is not possible. Rather, these measures were primarily designed to compare and contrast one or two different affect regulation styles, such as rumination versus distraction (Nolen-Hoeksema) or cognitive reappraisal versus suppression (Gross & John). Given that research has indicated the people adopt a wide variety of activities and behaviours in an effort to regulate their moods and emotions (e.g., Thayer et al.), a measure that has items sampling from this wide domain is needed. Second, some of the existing measures (e.g., by Thayer et al.; Totterdell & Parkinson) were intended for use as checklists, whereby participants simply ‘ticked’ which of a selection of listed strategies they employed. These measures have therefore not been designed to operate as rating scales, whereby individuals can rate the extent of their usage of a range of strategies, and the differential effectiveness of these strategies can be assessed in relation to well-being outcomes.

The present study seeks to address the shortcomings of existing measures, by developing a comprehensive self-report assessment tool that can be used to measure how often people use a range of strategies employed by individuals when regulating their moods and emotions, and that can be used for testing their differential effectiveness. By addressing some of the methodological limitations of existing research, it is hoped that this project will make a worthwhile contribution to the affect regulation literature.

A2 WHAT - BRIEF DESCRIPTION OF PROJECT

In plain English

The study is designed to develop a new self-report assessment tool that can be used to measure how often people use particular mood and emotion regulation strategies and the effectiveness of these strategies. The psychometric properties of an existing set of self-report items (developed on the basis of our previous research) will be investigated in a general population sample.

A3 HOW - PROCEDURES

Please detail clearly and sufficiently the proposed research/statistical method(s), procedures and instruments to be used in the project, including all screening and research ‘procedures’ to which the participants will be subjected, and asterisk those which may have adverse consequences.

Please include as appendices all screening instruments, questionnaires, interview protocols etc (at least in draft form if not finalised).

Participants in this study will complete a brief questionnaire that contains 2 measures and a small number of demographic questions. Specifically, the questionnaire includes: a 15-item adapted version of Thayer’s (1994) mood self-regulation inventory (to be developed into the new measure that is the focus of this study), the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988), and questions concerning age, gender, country of birth, marital status, employment status, highest level of educational achievement and whether the respondent is currently studying for a qualification. This questionnaire will be completed either online or in paper-and-pencil format.

There will be two ‘types’ of participation in this study:
(1) **Single administration** - respondents complete the questionnaire anonymously, on just one occasion, either online or in paper form. Paper copies of the questionnaire will be returned via a stamped, self-addressed envelope or for those paper copies completed by Swinburne students, these may be returned via a marked box in a University building.

(2) **Multiple administration** – respondents complete the questionnaire online on two different occasions, separated by a one-month interval. The data obtained from these participants will allow for test-retest reliability analyses to be conducted on the new measure. The procedure for conducting the multiple administration, will be as follows:

   1. Potential participants will be approached concerning involvement in this “two-stage” study. They will be given an information flyer (attached to this application, see p19) documenting relevant details of the study, what their involvement would entail and overteting that while some personal details will be obtained for the purposes of contacting them to complete the survey, their right to privacy and confidentiality will be preserved and all data obtained will be analysed in an anonymous fashion.

   2. At the end of this information flyer, participants are asked to provide their email address, and are instructed that by doing so, they are consenting to participate in the project.

   3. The student investigator will compile an email list, based on the addresses obtained through the above process. Each email address will be allocated a 4-digit code. A standard brief email will be sent individually to each participant that prompts them to visit the online site to complete the survey and informs them of the code they will be required to enter at the commencement of the questionnaire. Two of these emails will be sent to participants, approximately one-month apart.

   4. During the process of collecting this data, the participant email list that includes identification codes, will be stored electronically, on a password-protected data file held on the SUT main drive. After sending the second and final email to participants, this address list will be no longer needed, and so the electronic file will be deleted. This will be done before any analyses are undertaken, ensuring that the data received from the online site is deidentified and anonymous.
Appendix M. Study 2 plain language statement

REGULATION OF MOODS AND EMOTIONS: INVESTIGATING AFFECT REGULATION AND ITS CONTRIBUTION TO WELL-BEING AND ILLNESS OUTCOMES

Sarah Buckingham – PhD Candidate
Dr Greg Murray and Professor Mike Kyrios – Supervisors

Thank you for agreeing to participate in this research project, which aims to explore the ways in which individuals respond to their moods and emotions and the impact of these responses on well-being. It is hoped that this research will advance our understanding of the ways in which individuals can improve their mental health through their ongoing responses to daily mood and emotional experiences.

Participation in this study involves completing the following questionnaire, which will take approximately 30 minutes of your time. The questionnaire contains a variety of measures, which will ask questions related to: your use of particular mood regulation strategies; the ways in which you approach and process your emotional experiences; your general mood and feelings of well-being; your personality characteristics; the level of general distress you may have experienced in the last month; and finally, about some internal psychological experiences and whether you may have been previously diagnosed with or treated for a psychological disorder. There will also be a small number of general questions, asking about your age, gender, education and occupation. It would be greatly appreciated if you could respond to all of these sections as without all of the requested information, the analyses underlying this research will not be possible. There are of course no right or wrong answers on any of the items. Do not spend too long on any one item – it is your first response we are interested in.

Your responses to this questionnaire are completely confidential and anonymous. There will be no identifying information accompanying your answers, so that the researchers and other individuals reading the final analysis will have no way of identifying the individuals involved in the study. If the research is published in an academic journal, only group data will be reported, such that no individual responses will be examined, and anonymity will be maintained.

While you have initially agreed to participate in this study, you are entitled to withdraw your participation at any time, and please do so if any discomfort arises. If this research raises issues which you would like to discuss with a professional, please contact: (Australian participants) the Swinburne Psychology Clinic on (03) 9214 8653, which operates on a low cost fee-for-service basis, Lifeline on 131 114 or the Australian Psychological Society on (03) 8662 3300; (Overseas participants) Lifeline International provide free, 24-hour telephone counselling service and support to countries around the globe. Details of how to contact this service in your home country can be found on their website: http://www.lifeline-international.org/looking_for_help.

If you have any general questions about the study, please feel free to contact the senior investigator, Dr Greg Murray, by email: gwm@swin.edu.au or phone: (03) 9214 8300.

If you have any concerns about the conduct of this research project, you can contact: Research Ethics Officer, Office of Research and Graduate Studies (H68), Swinburne
University of Technology, P O Box 218, HAWTHORN VIC 3122 or phone (03) 9214 5218.

Thank you once again for your assistance in this important research. We hope you find it an interesting experience.

Please retain this information page for your own records.
Appendix N. Study 2 participant recruitment advertisement

Research project

Managing your moods and emotions: What works?

Individuals who are aged 18 years and over are invited to take part in this study exploring the ways in which individuals respond to their moods and emotions and the impact of these responses on well-being. The project’s aim is to highlight the ways in which peoples’ mental health is related to their active responses to daily mood and emotional experiences. These methods may include the use of particular strategies like accessing social support, or may refer to characteristics of the way in which one approaches their emotional experiences, such as with ‘emotional acceptance’. Understanding these sorts of processes, i.e., what works and what doesn’t work in terms of moods and their regulation, is an important task in light of the finding that the mismanagement of moods and emotions underlies many psychological disorders.

Participation in this study involves the completion of an anonymous online questionnaire which will take approximately 30 minutes of your time. The questionnaire contains questions relating to the ways in which you approach, process and manage your mood and emotional experiences. Also included are questions that explore aspects of personality and your overall health and well-being. It would be greatly appreciated if you could respond to all these sections, but you are not under any obligation to do so.

This research, which has received ethics approval from the Swinburne Human Research Ethics Committee, is being conducted by Sarah Buckingham, PhD candidate, under the supervision of Dr Greg Murray and Professor Mike Kyrios, Swinburne University.

Thank you for considering participating in this study. Please click on the link below to access the survey:
Appendix O. Study 2 research survey instrument

RESEARCH SURVEY

REGULATION OF MOODS AND EMOTIONS: INVESTIGATING AFFECT REGULATION AND ITS CONTRIBUTION TO WELL-BEING AND ILLNESS OUTCOMES

Sarah Buckingham – PhD Candidate
School of Psychology
Swinburne University of Technology

Supervisors: Dr Greg Murray; Professor Mike Kyrios
## Part One: DEMOGRAPHIC QUESTIONS

1. **What is your gender?**  
   *(please tick)*  
   - Male [ ]  
   - Female [ ]

2. **What is your age (in years)?** [ ]

3. **What is your country of birth?** *(please tick one box only)*  
   - Australia [ ]  
   - New Zealand [ ]  
   - Vietnam [ ]  
   - England [ ]  
   - Italy [ ]  
   - Other - please specify: [ ]

4. **In what country are you currently living?** *(please state)*

5. **What is your current marital status?** *(please tick one box only)*  
   - Never married [ ]  
   - Widowed [ ]  
   - Divorced [ ]  
   - Separated [ ]  
   - Married (including de facto) [ ]

6. **What is your current employment status?** *(please tick one box only)*  
   - Employed – Full time [ ]  
   - Employed – Part time [ ]  
   - Unemployed – Looking for work [ ]  
   - Not employed – Not looking for work [ ]

7. **What is your highest level of educational achievement?** *(please tick one box only)*  
   - Completed primary school [ ]  
   - Completed secondary school [ ]  
   - Completed apprenticeship or trade certificate [ ]  
   - Completed university bachelor degree [ ]  
   - Completed postgraduate education (eg PostGrad Diploma, Masters, PhD) [ ]

8. **Are you currently studying for a qualification?** *(please tick one box only)*  
   - Studying - Full time [ ]  
   - Studying – Part time [ ]  
   - Not currently studying for any course [ ]
9. Have you ever been treated for a psychological disorder? (please circle) YES NO

If so, were you given a diagnosis? Please state…………………………………………………………
…………………………………………………………………………………………………….
…………………………………………………………………………………………………….
…………………………………………………………………………………………………….
### Part One: AFFECT REGULATION STRATEGIES

This section includes questions concerning your usual practices of changing or regulating your moods and emotions.

By circling a response from the options provided, please indicate the extent to which you adopt the following strategies to try to improve your moods and emotions (e.g., when you try to get out of a bad mood or maintain or enhance a good mood).

<table>
<thead>
<tr>
<th>1. Call, talk to, or be with someone.</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Frequently</th>
<th>Very frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Control thoughts (e.g., think positively, concentrate on something else, don’t let things bother me, give myself a “pep talk.”)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Evaluate or analyse the situation to determine the mood cause.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Try to put feelings in perspective.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Exercise.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Listen to music.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Engage in emotional activity (e.g., cry, scream).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Engage in pleasant (fun) activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Watch TV (e.g., movie).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Use relaxation techniques (e.g., deep breathing, stretching &amp; bending, muscle relaxation, massage, visualisation).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Eat something.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. Drink coffee or other caffeinated beverage.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Drink alcohol.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Have sex.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Engage in stress management activities (e.g., get organised, plan ahead, make lists).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Part Two: EMOTIONAL APPROACH AND PROCESSING CHARACTERISTICS

This section asks about the ways you experience, approach and process your emotions and the impact they may have on your daily activities.

By circling one response from each option provided, please indicate the extent to which you believe the following statements accurately describe you.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>About half the time</th>
<th>Most of the time</th>
<th>Almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am clear about my feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I pay attention to how I feel.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I experience my emotions as overwhelming and out of control.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I have no idea how I am feeling.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I have difficulty making sense out of my feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I am attentive to my feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. I know exactly how I am feeling.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I care about what I am feeling.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. I am confused about how I feel.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. When I’m upset, I acknowledge my emotions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. When I’m upset, I become angry with myself for feeling that way.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. When I’m upset, I become embarrassed for feeling that way.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. When I’m upset, I have difficulty getting work done.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. When I’m upset, I become out of control.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Almost never</td>
<td>Sometimes</td>
<td>About half the time</td>
<td>Most of the time</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>--------------</td>
<td>-----------</td>
<td>--------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>15. When I'm upset, I believe that I will remain that way for a long time.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. When I'm upset, I believe that I'll end up feeling very depressed.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. When I’m upset, I believe that my feelings are valid and important.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. When I’m upset, I have difficulty focusing on other things.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. When I’m upset, I feel out of control.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. When I’m upset, I can still get things done.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. When I’m upset, I feel ashamed with myself for feeling that way.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. When I’m upset, I know that I can find a way to eventually feel better.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. When I’m upset, I feel like I am weak.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. When I’m upset, I feel like I can remain in control of my behaviours.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. When I’m upset, I feel guilty for feeling that way.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26. When I’m upset, I have difficulty concentrating.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27. When I’m upset, I have difficulty controlling my behaviours.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28. When I’m upset, I believe that there is nothing I can do to make myself feel better.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29. When I’m upset, I become irritated with myself for feeling that way.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Almost never</td>
<td>Sometimes</td>
<td>About half the time</td>
<td>Most of the time</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>-------------</td>
<td>-----------</td>
<td>---------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>30. When I’m upset, I start to feel very bad about myself.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31. When I’m upset, I believe that wallowing in it is all I can do.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>32. When I’m upset, I lose control over my behaviours.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>33. When I’m upset, I have difficulty thinking about anything else.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>34. When I’m upset, I take time to figure out what I’m really feeling.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>35. When I’m upset, it takes me a long time to feel better.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>36. When I’m upset, my emotions feel overwhelming.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Part Three: PERSONALITY

The following items contain phrases describing people's typical behaviours. Please use the rating scale below to describe how accurately each statement describes you generally. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Very inaccurate</th>
<th>Moderately inaccurate</th>
<th>Neither inaccurate nor accurate</th>
<th>Moderately accurate</th>
<th>Very accurate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Often feel blue.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Feel comfortable around people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Do not like art.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Have a good word for everyone.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Am always prepared.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Dislike myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Make friends easily.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Have a vivid imagination.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Believe that others have good intentions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Pay attention to details.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Am often down in the dumps.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. Am skilled in handling social situations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Have a rich vocabulary.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Respect others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Get chores done right away.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. Have frequent mood swings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. Am the life of the party.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. Carry the conversation to a higher level.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. Accept people as they are.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. Carry out my plans.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21. Panic easily.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22. Know how to captivate people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23. Enjoy hearing new ideas.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24. Make people feel at ease.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25. Make plans and stick to them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26. Seldom feel blue.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>27. Have little to say.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>28. Am not interested in abstract ideas.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>29. Have a sharp tongue.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>30. Waste my time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Very inaccurate</td>
<td>Moderately inaccurate</td>
<td>Neither inaccurate nor accurate</td>
<td>Moderately accurate</td>
<td>Very accurate</td>
</tr>
<tr>
<td>---</td>
<td>-----------------</td>
<td>-----------------------</td>
<td>---------------------------------</td>
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</tr>
<tr>
<td>31. Feel comfortable with myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>32. Keep in the background.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>33. Enjoy wild flights of fantasy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>34. Cut others to pieces.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>35. Find it difficult to get down to work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>36. Rarely get irritated.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>37. Would describe my experiences as somewhat dull.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>38. Avoid philosophical discussions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>39. Suspect hidden motives in others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>40. Do just enough work to get by.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>41. Am not easily bothered by things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>42. Don't like to draw attention to myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>43. Do not enjoy going to art museums.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>44. Get back at others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>45. Don't see things through.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>46. Am very pleased with myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>47. Don't talk a lot.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48. Rarely look for a deeper meaning in things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>49. Insult people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>50. Shirk my duties.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
### Part Four: Your internal experiences

This measure asks you some questions concerning general distress. By circling a response from the options provided, please indicate the extent to which you believe the following statements describe how you have felt in the last 4 weeks.

<table>
<thead>
<tr>
<th>Statement</th>
<th>None of the time</th>
<th>A little of the time</th>
<th>Some of the time</th>
<th>Most of the time</th>
<th>All of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In the last 4 weeks, about how often did you feel tired out for no good reason?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2. In the last 4 weeks, about how often did you feel nervous?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3. In the last 4 weeks, about how often did you feel so nervous that nothing could calm you down?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>4. In the last 4 weeks, about how often did you feel hopeless?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5. In the last 4 weeks, about how often did you feel restless or fidgety?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>6. In the last 4 weeks, about how often did you feel so restless you could not sit still?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>7. In the last 4 weeks, about how often did you feel depressed?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>8. In the last 4 weeks, about how often did you feel that everything was an effort?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>9. In the last 4 weeks, about how often did you feel so sad that nothing could cheer you up?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>10. In the last 4 weeks, about how often did you feel worthless?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

The next set of statements refer to experiences that people may have in their everyday lives. By circling a response from the options provided, please indicate the extent to which you believe these statements accurately describe you.
<table>
<thead>
<tr>
<th>Question</th>
<th>Never or hardly ever</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very often or almost constantly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have there been long periods in your life when you felt sad, depressed, or irritable most of the time?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Have you had periods of extreme happiness and high energy lasting several days or more when what you saw, heard, smelled, tasted, or touched seemed vivid or intense?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Have there been times of several days or more when you really got down on yourself and felt worthless?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Have you had periods of extreme happiness and intense energy (clearly more than your usual self) when, for several days or more, it took you over an hour to get to sleep at night?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. Have you had long periods in which you felt you couldn’t enjoy life as easily as other people?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. Have you had periods lasting several days or more when you felt</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Q: depressed or irritable, and then the periods of several days or more when you felt extremely high, elated, and overflowing with energy?</td>
<td>Never or hardly ever</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very often or almost constantly</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>7. Have there been periods lasting several days or more when you were so down in the dumps that you thought you might never snap out of it?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. Have you had periods of extreme happiness and intense energy lasting several days or more when you also felt much more anxious or tense (jittery, nervous, uptight) than usual (other than related to the menstrual cycle)?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. Have there been times when you looked back over your life and could see only failures or hardships?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. Have there been times lasting several days or more when you felt you must have lots of excitement, and you actually did a lot of new or</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Never or hardly ever</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very often or almost constantly</td>
</tr>
<tr>
<td>---</td>
<td>----------------------</td>
<td>-----------</td>
<td>-------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td></td>
<td>different things?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Have you had periods when it seemed that the future was hopeless and things could not improve?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. Have there been periods of several days or more when your friends or family told you that you seemed unusually happy or high, clearly different from your usual self or from a typical good mood?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. Have there been times when you have hated yourself or felt that you were stupid, ugly, unlovable, or useless?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. Have there been periods when, although you were feeling unusually happy and intensely energetic, almost everything got on your nerves and made you irritable or angry (other than related to your menstrual cycle)?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. Have there been times of several days or more when you were so sad it was quite painful or you felt that you couldn’t stand it?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Never or hardly ever</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very often or almost constantly</td>
</tr>
<tr>
<td>---</td>
<td>----------------------</td>
<td>-----------</td>
<td>-------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>16. Have you experienced periods of several days or more when, although you were feeling unusually happy and intensely energetic (clearly more than your usual self), you also were physically restless, unable to sit still, and had to keep moving or jumping from one activity to another?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. Have there been times of several days or more when you were so down that nothing (not even friends or good news) could cheer you up?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. Have there been times of a couple of days or more when you felt that you were a very important person or that your abilities or talents were better than most other people’s?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. Have there been times when you have felt that you would be better off dead?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. Have there been times of several days or more when you did</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Never or hardly ever</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very often or almost constantly</td>
</tr>
<tr>
<td>-----------------------------------------------------------------</td>
<td>----------------------</td>
<td>-----------</td>
<td>-------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>not feel the need for sleep and were able to stay awake and alert for much longer than usual because you were full of energy?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part Five: WELL-BEING

This final section includes three measures that assess your mood and level of well-being.

The first measure is made up of 20 words that describe feelings or mood. By circling a response from the options provided, please indicate to what extent you have felt this way during the past week.

<table>
<thead>
<tr>
<th>Word</th>
<th>Very slightly or not at all</th>
<th>A little</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interested</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Distressed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Excited</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Upset</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Strong</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Guilty</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Scared</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Hostile</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Enthusiastic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Proud</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Irritable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Alert</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ashamed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Inspired</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Nervous</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Determined</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Attentive</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Jittery</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Active</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Afraid</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Below is a list of statements related to attitudes to life and overall well-being. By circling a response from the options provided, please indicate how much you agree or disagree with each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I tend to be influenced by people with strong opinions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. In general, I feel I am in charge of the situation in which I live.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I think it is important to have new experiences that challenge how you think about yourself and the world.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Maintaining close relationships has been difficult and frustrating for me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I live life one day at a time and don’t really think about the future.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. When I look at the story of my life, I am pleased with how things have turned out.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. I have confidence in my opinions, even if they are contrary to the general consensus.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. The demands of everyday life often get me down.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. For me, life has been a continuous process of learning, changing and growth.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. People would describe me as a giving person, willing to share my time with others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Some people wander aimlessly through life, but I am not one of them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. I like most aspects of my personality.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither agree nor disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>-------------------</td>
<td>----------</td>
<td>---------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>13. I judge myself by what I think is important, not by the values of what others think is important.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. I am quite good at managing the many responsibilities of my daily life.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. I gave up trying to make big improvements or changes in my life a long time ago.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. I have not experienced many warm and trusting relationships with others.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. I sometimes feel as if I’ve done all there is to do in life.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. In many ways, I feel disappointed about my achievements in life.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
This final measure assesses life satisfaction. By circling a response from the options provided, please indicate your agreement with each of the 5 statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neither Agree or Disagree</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>In most ways my life is close to my ideal.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>The conditions of my life are excellent.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>I am satisfied with my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>So far I have gotten the important things I want in life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>If I could live my life over, I would change almost nothing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

The questionnaire is now complete. Thank you very much for your participation in this research.
**SECTION A: GENERAL INFORMATION**

[‘Nb This application form should not be used for research involving clinical trials or ionising radiation. See below.’]

<table>
<thead>
<tr>
<th>PROJECT FULL TITLE</th>
<th>Regulation of moods and emotions: Investigating affect regulation and its contribution to well-being and illness outcomes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHORT TITLE</td>
<td>(If applicable)</td>
</tr>
<tr>
<td>APPLICANT DETAILS</td>
<td></td>
</tr>
</tbody>
</table>
| RESPONSIBLE        | Name & Title/Position: Dr Greg Murray, Senior Lecturer
                    | Tel No(s): (03) 9214 8300
                    | Email: gwm@swin.edu.au
                    | Faculty / School / Centre / Institute: Faculty of Life and Social Sciences
                    | Swinburne Status: ☒ Swinburne Staff Member
                    | □ Adjunct Staff Member
                    | Address for correspondence: Faculty of Life and Social Sciences, Swinburne University of Technology, PO Box 218 John St., Hawthorn 3122 AUSTRALIA |
| Please complete as | Main Student Investigator(s): Sarah Buckingham
                    | clearly as possible. (For Honours, higher degree and discrete student projects.) |
| Degree Being       | Email: sarah@buckingham.id.au
                    | Undertaken: Doctor of Philosophy |
| Undertaken         | Tel No(s): 0409 140 555
                    | Student ID Number: 4026462
                    | Fax: 9571 7004 |
| Proposed Period    | Date Received: ………………
                    | During Which Human Research Activity Requiring Ethics Approval is Needed: |
| From 01 03 2008 to | | | |
| | dd mm yyyy | to | dd mm yyyy |
| | | | |

List below the names of other Chief/Associate Investigators and Research Assistants (including those with access to identifiable data).

(Add (copy/paste) cells as required for additional investigators/assistants. Append Student lists for class projects.)

**Name & Title: Professor Mike Kyrios, Professor of Psychology, Director, Swin-PsyCHE Research Unit**

Institutional Address: Swinburne University of Technology, Applied Sciences Building, Room AS302, Burwood Rd, Hawthorn, 3122

**Name & Title/Position:**

<table>
<thead>
<tr>
<th>Institutional Address:</th>
<th>Tel No(s): (03) 9214 8823</th>
</tr>
</thead>
</table>

[Double-click on ‘YES’ / ‘NO’ ‘check box’ to select box, then enter Default Value as Checked ☒ or leaving as Not Checked ☐]
### TYPE OF ACTIVITY

(Select as many boxes as applicable)

- Research by Staff Member
- Supervised Postgraduate Research
- Supervised Undergraduate Research
- Contract Research (Attach copy of contract)
- Supervised Class Projects

**Subject Code & Short Title:**

**No of students involved:**

### Broad Category of Research

Select one category box which best fits the application:

- Social/Cultural/Humanities
- Business/Management
- Education/Training/Program Evaluation
- Psychological/Brain/Neuro-sciences
- Health/Safety
- Engineering/Science/Technology
- Other (please specify) …………………………………………………

[** For research involving Clinical Trials or Ionising Radiation, please contact the Research Ethics Officer.]

### Human Research Risk/Review Classification

(Nb Checking to be consistent with published risk criteria)

To enable a determination as to whether prima facie your research activity is Minimal Risk and/or Low Impact, please clarify by selecting [X] any one or more boxes below as to whether your research activity involves:

[Double-click on YES /NO 'check box' to select X by entering in Default Value as Checked or leaving as Not Checked !]

- Vulnerable participants, children or those dependent on care*
- Indigenous Peoples* or Special Cultural/Ethnic groups
- Externally funded research requiring HREC-level clearance*
- Multi-centre/Other sites requiring HREC-level approval*
- Research conducted overseas
- Conflicts of interest or dual researcher-professional roles
- Data access/use without an individual’s prior consent*
- Data access/use subject to statutory guidelines &/or reporting*
- Identification of participant individuals/groups in research outcomes without full consent or there is unclear consent for this*
- Sensitive information/issues vis-à-vis context/impact (legal*, regulatory compliance*, commercial, professional, cultural, etc)
- Personally intrusive/confronting or quite inconvenient/embarrassing questioning or other activity
- Physically confining/invasive techniques or significant physical contact/stimulation (TMS*, X-ray*, CT scan*, MRI*, clothing change, etc)
- Working in hazardous environments (asbestos dust*, infectious disease*, war or civil strife*, etc)
- Handling hazardous substances (eg, asbestos*, radioactive material*, explosives*, etc) or equipment
- Administration of medical/herbal substances*/treatments*
- Administration of other (non-medical) substances/treatments
- Health/medical diagnosis*/therapy*
- Non-minimal impact therapeutic or other devices*/activity*
- Screening for healthy participant inclusion/exclusion
- Medical or psychiatric assessment/conditions*
- Serious psychological profiling, investigation or exploration
- Withdrawal of treatment/services or use of placebo
- Withdrawal/substitution of educational/professional/commercial/recreational/other programs or services
- Deception or covert observation
- Limited or non-disclosure of research information/procedures
- Participant recruitment/selection via third party
- Human research activity commenced without clearance
- Participation incentives, prizes or significant payments
- Research placing researchers/assistants at risk
PLEASE NOTE: If you have selected any one or more of the above boxes, your project will ordinarily be put for SUHREC ethical review. Items above marked * must be put to SUHREC proper. But in other cases, you may wish to put a case for expedited review by a SUHREC Sub-Committee (SHESC) in the (expandable) box below in relation to the criteria for determining risk/impact. If you put forward a case, then in the first instance your application will be put to the relevant SHESC; however, the relevant SHESC may still consider the project needs full SUHREC appraisal or SUHREC may review or override the SHESC decision.

Risk/Impact Checked with a Research & Ethics Advisor (REA)?  Yes ☐  No ☒  REA Comment, Initials & Date:

..........................................................................................................................................................
1.13 Every research proposal must demonstrate that the research is justifiable in terms of its potential contribution to knowledge and is based on a thorough study of current literature as well as prior observation, approved previous studies, and where relevant, laboratory and animal studies.

1.14 All research proposals must be so designed as to ensure that any risks of discomfort or harm to participants are balanced by the likely benefit to be gained. Research must only be conducted using facilities appropriate for the research and where there are appropriate skills and resources for dealing with any contingencies that may affect participants.

A1 WHY IS THE PROJECT TO BE UNDERTAKEN

Summarise in sufficient detail why the project is being undertaken. If references are quoted, full citations should be given. Include the educational and/or scientific aims of the project. (boxes will expand for your text)

This research aims to advance our understanding of the ways in which individuals can improve their mental health through their active responses to daily mood and emotional experiences (“affect regulation”). Specifically, the project is designed to:

1) Investigate the ways in which individuals respond to and regulate their moods and emotions and the impact of these responses on their overall well-being.

2) Examine how affect regulation variables are related to personality characteristics and vulnerability to psychological disorders.

A2 WHAT - BRIEF DESCRIPTION OF PROJECT

In plain English

This research project aims to explore the ways in which individuals respond to and regulate their moods and emotions and the impact of these responses on their overall well-being. Self-report data will be collected from a general population sample about the strategies individuals use to regulate their moods and emotions, and the ways in which individuals more generally experience, approach and process their emotional experiences. This data will be subjected to analyses to investigate how these factors relate to: personality characteristics; level of well-being; and vulnerability to psychological disorders.

A3 HOW - PROCEDURES

Please detail clearly and sufficiently the proposed research/statistical method(s), procedures and instruments to be used in the project, including all screening and research ‘procedures’ to which the participants will be subjected, and asterisk those which may have adverse consequences. Please include as appendices all screening instruments, questionnaires, interview protocols etc (at least in draft form if not finalised).

Participants will anonymously complete a questionnaire that contains a battery of measures, including: the Difficulties in Emotion Regulation Scale (DERS, Gratzi & Roemer, 2004); the NEO Five-Factor Inventory (NEO-FFI, Costa & McCrae, 1992), a 15-item adapted version of Thayer’s (1994) mood self-regulation inventory; the Kessler-10 (K-10, Kessler et al., 2002) measure of psychological distress; a 20-item adapted version of Depue and Klein’s (1988) General Behavior Inventory; the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988); the Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985) and Ryff’s (1989) psychological well-being scale. There will also be some demographic questions, concerning age, gender, country of birth, country of residence, marital status, employment status and highest level of educational attainment. Lastly, there will be a screening question that asks participants whether they have ever been treated for a psychological disorder, and if so, please state the diagnosis that may have been given. Participants will complete the questionnaire either online or in paper-and-pencil format. Those who complete a paper copy of the questionnaire will return this anonymously via a stamped, self-addressed envelope. Paper copies of the questionnaire completed by Swinburne students will be returned anonymously via a marked box in a University building.

If you feel that it is necessary to include further material, please append.

A4 DESCRIBE ANY RISK THAT MAY ARISE TO THE PARTICIPANT / DONOR?

Risk to participants (and to researchers) can be real but does not need to be physical. Risk includes such as self esteem, regret, embarrassment, civil or criminal liability, disease, physical harm, loss of employment or professional standing, etc. Please consider such possibilities carefully.

Some research activities may put the participant at risk through what is being done or simply through their participation. Please describe the risk you perceive and the protective measures to be taken.

No risk above the everyday is expected.

A5 DESCRIBE ANY RISK THAT MAY ARISE TO THE RESEARCHER / ADMINISTRATOR?

Some research activities may put the researcher at risk through what is being done or simply through their participation. Please describe the risk you perceive and the protective measures to be taken.

No risk to the researcher is expected.

A6 WHAT BENEFITS ARE ANTICIPATED FROM THE PROJECT

Ethical principles would require that benefits flowed from the activities - but please avoid grandiose claims.
(a) To the Participant (what and how so)

Participants may gain some insight into the nature of psychological research, into the ways in which well-being and personality are measured and the various strategies which people have been found to use to regulate their mood and emotional experiences.

(b) More generally (to society, profession, knowledge, understanding, etc, and how so.)

It is hoped that the research will contribute to the current literature on affect self-regulation, addressing in particular such issues as the lack of an established measurement tool and conceptual model for representing this construct, and the lack of previous studies into the relationship between various strategies and self-reports of mood/well-being. It is also hoped that in uncovering which strategies and emotional approach variables are found to benefit mood and well-being, important information will be revealed concerning ways in which well-being can be improved and mood difficulties can be managed. This is particularly relevant in light of knowledge that the mismanagement of moods and emotions is implicated in a number of psychological disorders.

A7 POTENTIAL PROBLEMS

From time to time in the course of a research project important information, such as an individual found to be at risk, or entirely unforeseen events may come to pass. What procedures are in place to handle unexpected or particularly significant personal or other information that may come to light through the project, eg, unknown medical/psychiatric condition, a particularly distressed participant, civil or criminal liability, etc.

The questionnaire administered to participants will advise them that they are free to withdraw from the study at any time, and should do so if feelings of discomfort arise. It will contain contact details of all researchers involved in the investigation to whom they can direct questions or concerns, as well as details of the Swinburne Ethics Committee to whom queries and complaints about the study can be directed. This referral information will be provided in the plain language cover sheet. The cover sheet will also contain details of counselling and support services that can be accessed should any distress arise as a result of participating in this project and completing the questionnaire.

A8 PROFESSIONAL/ETHICAL ABILITY & TRAINING (Researchers/Students/Assistants)

NS 1.15 Research must be conducted or supervised only by persons or teams with experience, qualifications and competence appropriate to the research … using (appropriate) facilities … (and with appropriate skills and resources for dealing with any contingencies…

(a) Sufficiently detail what investigators/assistants will do in this project and their expertise/competence to do so.

The main student investigator (Sarah Buckingham) will be responsible for the collection and management of data that is obtained for the purposes of this project. She will approach potential participants concerning involvement in the study, and will be responsible for handing out questionnaires and details of the internet website where the questionnaire can also be completed, and will collate the paper copies and internet surveys in order to manage and complete the data entry process. Sarah successfully completed a Bachelor of Arts (Honors) in 2006 which required that she undertake these sorts of research tasks for her thesis, and training in ethical practice and the necessary communication skills was also provided in this course.

The Swinburne staff supervisors involved in this project (Dr Greg Murray and Professor Mike Kyrios) have a wealth of experience and expertise in teaching, clinical and research endeavours and will be available to instruct Sarah through any issues or dilemmas that may arise during the process of collecting data for this project.

(b) Sufficiently detail any further training/qualifications required for investigators/assistants to carry out the project.

N/A

A9 FUTURE USE OF DATA

Will any of these data be used by yourself, your students or others for any purpose other than for this project as described in the protocol? If so please describe.

No

A10 EXTERNAL INVOLVEMENT

Is a body external to Swinburne involved in initiation or support of the project?

☐ Yes  Name of body/organisation.………………………………………………………………………………………..

If an external body is associated with the project you must provide the HREC with detail of the arrangements, including details of any funding or other resources being provided. A copy of relevant pages from the contractual arrangements should be attached.

☐ No

A11 EXTERNAL APPROVALS

Projects involving other organisations or entities may require approval from other institutions or their ethics committees, etc. for such things as access to prospective participants, contact lists, data, facilities, etc. A copy of such approvals may be required to be provided to the HREC at the time of application or be made available as soon as possible. In which case, the project may not commence, until such evidence is provided.

Please indicate, as appropriate, if formal clearance/permission has been obtained or sought:
Institutional Yes ☐ Documentation Attached ☐ or to follow ☐
Next of Kin (for special groups) Yes ☐ Documentation Attached ☐ or to follow ☐
(estimate when likely to be obtained)
☐ No (please explain)
N/A

A12 RESEARCHER / SPONSOR RELATIONSHIP

Is there any relationship or association between the sponsor and any of the researchers listed in Section A of this form, for example are any of the researchers directors, officers, employees, shareholders or promoters of the sponsor or do they receive any personal benefits from the sponsor under any other contracts or arrangements?
☐ No
☐ Yes (please explain the relationship(s), including how a vested or a conflict of interest situation does not arise.)
SECTION B: ETHICAL ISSUES OVERVIEW

B ETHICAL ISSUES

[Double-click on □ YES/NO 'check box' to select box, then enter Default Value as Checked ☑ or leaving as Not Checked □ ]

(a) Non-Limited Disclosure or Deception: Is any detail in relation to research purposes, methods or questions being withheld from participants? Or will deception of any kind be involved? Or any covert/undeclared observation? (Refer National Statement Chap 17)

(b) Does the data collection process involve access to confidential personal data (including access to data provided for a purpose other than this particular research project) without the prior consent of subjects?

(c) Will participants have pictures taken of them, e.g., photographs, video recordings?
   If "YES", please explain how you intend to retain confidentiality and ultimately dispose of the material.

(d) If interviews are to be conducted, will they be record by electronic device?
   If "Yes", please explain how you intend to retain confidentiality and ultimately dispose of the material.

(e) Will participants be asked to perform any acts or make statements which might compromise them, diminish self esteem or cause them embarrassment or regret (minimal, moderate or significant)?

(f) Might any aspect of your study reasonably be expected to place the participant at risk of criminal or civil liability (not just immediately or directly)?

(g) Might any aspect of your study reasonably be expected to place the participant at risk of damage to their professional/social/cultural/financial standing or employability?

(h) Will the research involve access to data banks subject to privacy legislation?*
   (NOTE: Annual reporting to Government may be required on this item. For info: please contact the Research Ethics Officer.)

(i) Will participants come into contact with any equipment which uses an electrical supply in any form e.g., audiometer, biofeedback, electrical stimulation, magnetic stimulation, etc.? If "YES", please outline below what safety precautions will be followed.

(j) Will any treatment be used with potentially unpleasant or harmful side effects?

(k) Does the research involve any stimuli, tasks, investigations or procedures which may be experienced by participants as stressful, noxious, aversive or unpleasant during or after the research procedures?

(l) Will the research involve the use of placebo control conditions or the withholding/substitution of treatment, programs or services (health, educational, commercial, other)?

(m) Will any samples of body fluid or body tissue be required specifically for the research which would not be required in the case of ordinary treatment?

(n) Will participants be fingerprinted or DNA "fingerprinted"?

(o) Are there in your opinion any other ethical issues involved in the research?

NOTE: If the answer to any of the above questions is "yes", please explain and justify below in sufficient clear detail. (The box below will expand to fit your response.)

Two of the measures being used in the questionnaire (the Kessler-10 scale of psychological distress and the items adapted from the General Behavior Inventory) contain questions that could potentially cause distress for participants as they contemplate and answer these. An example of such items includes: "In the last 4 weeks, about how often did you feel so sad that nothing could cheer you up?" (from the K-10) and "Have you had periods when it seemed that the future was hopeless and things could not improve?" (from the GBI). The potential for distress arising in response to these questionnaires has been considered by the researchers, and accordingly - details of counselling and support services that respondents may access are provided on the plain language cover sheet. Further, because participation in the study is voluntary, anonymous and individuals are free to withdraw their participation at any time, no serious repercussions as a result of responding to the items on these two measures are foreseen.

Attach further documents if appropriate
SECTION C: PARTICIPANT DETAILS

C1 PARTICIPANT DETAILS
The composition of the participant group may, in some circumstances, distort and invalidate an outcome, and risks may arise through the composition of the participant group.

How many individual participants will be involved? (Number/number ranges for which approval is sought)

<table>
<thead>
<tr>
<th>Males</th>
<th>Females</th>
<th>Total participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>250</td>
<td>500</td>
</tr>
</tbody>
</table>

Over what range of ages?
From (youngest): 18 To (Oldest): 60 +

If there is a gender or age imbalance in the number of participants please explain why.

C2 RECRUITMENT
How will participants be recruited/selected?
Please outline the process in sufficient detail how this is to occur.

Note: Where participants are obtained from or through schools, hospitals, prisons or other institutions, appropriate institutional or other authority will probably be needed. If soliciting for participants by advertisement or poster please attach proposed copies or text.

(See also Project Information Consent Statements and Signed Consent Forms info at the end of this application form.)

A convenience sample will be used. Recruitment will involve questionnaires and details of the internet-based questionnaire administration (i.e. web link) being provided to willing Swinburne psychology undergraduate students as well as friends and associates of the researchers, creating a snowball effect. In order to access as many participants as possible, an advertisement for the project may be placed on internet sites such as at The Australian Psychological Society website (www.psychology.org.au), which would adhere to the guidelines and procedures included in ‘How to add a research project’ on the Research Opportunities page of their site, or the particular guidelines and protocols deemed necessary by other internet sites. An example of the advertisement that may be placed on internet sites, providing the appropriate consent is obtained and protocols followed, is attached at the end of this application.

C3 PRE-EXISTING CONDITIONS
In some situations an underlying medical or other significant condition of a participant may result in an otherwise relatively innocuous situation causing excessive stress and exacerbate the condition.

Researchers must, therefore, be alert to such situations and be able to address the resulting issues.

Do participants have any medical or other significant condition of which you are aware, eg. diabetes, asthma, depression, epilepsy? What steps are in place to handle any resulting problems (you may need to correlate with A3, A4 and A7 of this form)?

N/A

C4 DISCLOSURE AND INFORMED CONSENT
How will participants be informed about the project in order to give valid consent:

☐ Consent Information Statement(s)/Letter(s) and Signed Consent Form(s) will be used. A copy must be attached to your application. A guide to consent instruments is given at the end of this form.

☒ Consent Information Statement(s)/Letter(s) and consent implied by return of anonymous questionnaire

☐ Verbal advice (Please explain how and why)

☐ Other (Please explain how and why)

Copies of appropriate consent instruments must be attached to your application. Please consult the Guide to Human Research Informed Consent Instruments in carefully preparing informed consent instruments.

C5 COMPENSATION
Consent to participate must be freely given and not induced through the level of reward, perceived reward, or power relationships

Provide details of any financial or other reward or inducement is being offered to subjects for participation. Indicate the source of the funds.
C6 RELATIONSHIP TO INVESTIGATOR(S)
Free consent may be difficult to ensure if the participant is dependent upon the investigator for employment, assessments etc. Some relationships cause special ethical issues to arise.
Are participants linked with the investigator through some particular relationship - eg. employees ultimately responsible to or superiors of the investigator, students of investigator, family members, friends etc. Some participants may be acquaintances of the researcher, however, the anonymity of the questionnaire ensures that this will not jeopardise confidentiality, and any paper questionnaires completed by these acquaintances will be returned via a stamped self-addressed envelope.

C7 INVOLVEMENT OF SPECIAL GROUPS
Particular issues of consent may arise where special groups of participants are to be involved. There may be, for example, a need to obtain informed consent from persons other than the direct participant. Examples of such special groups include special cultural groups - eg. indigenous Australians; children and young persons (Guidelines section 4.2); groups with special circumstances - eg. persons with an intellectual or mental impairment (Guidelines s. 5)
Please identify and describe the nature of the groups and procedures used to obtain permission.
Note. Persons proposing research projects involving Indigenous Australians should consult with the relevant University manager of indigenous programs prior to finalising definition of the project.

C8 PRIVACY
The University is subject to the Victorian Information Privacy and Health Records Acts as well as the Commonwealth Privacy Act and, in particular, the Information/Health/National Privacy principles (IPPs/HPPs/NPPs) set out therein and is required to report annually on projects which relate to or utilise particular records.
Does the research involves access to data which was collected by an organisation for its own purposes (ie. not specifically collected for this project) such as student records, other data banks, human pathology or diagnostic specimens provided by an institution/s?
If yes, please indicate source/s.

C9 LOCATION OF STUDY
Please indicate where the research will be carried out. If the research will not be on University premises permission of owner / occupier may be required. If so, please indicate what authority or permission may be required and how will be obtained. NB: Where required, please attach to this application evidence of authority obtained or provide the Secretary, HREC as soon as practicable.
Questionnaires will be completed at a location that is convenient to the respondents.
SECTION D: DATA & PUBLICATION ARRANGEMENTS (Nb Section D Revised Aug 2007)

PLEASE CONSIDER CAREFULLY YOUR RESPONSES TO THIS SECTION. YOU NEED TO BE CLEAR AS TO WHAT IS OCCURRING WITH RESPECT TO DATA COLLECTION, RETENTION and DISPOSAL.

(In your responses, you should demonstrate familiarity with National Statement requirements for confidentiality, relevant Privacy Principles and Swinburne’s Policy on the Conduct of Research, eg, Sect 4, see URL: http://ppd.swin.edu.au/edupro/PolicyOnTheConductOfResearch.htm.)

D1 DATA COLLECTION/RECORDING (Nb Section D1 Revised Aug 2007)

Please note that, with any information or data collected/retained, if any individual can reasonably be identified, the information can be deemed “personal information” or “health information” under National/Health/Information Privacy Principles (NPPs/HPPs/IPPs).

(a) How or in what form will data be collected/recorded?

(eg, notes; verbatim, audio and/or video recordings; transcriptions of recordings; recorded or signed consents; etc)

Data will be collected in online format and on paper copies of the questionnaire.

(c) As regards any individual, in relation to any data collection or retention, you need to acknowledge either or both of the following:

(Double-click on check box to select X by entering in Default Value as Checked or leaving as Not Checked)

☐ An Individual can be identified OR is Potentially Identifiable / Re-Identifiable

(An individual can be identified at some point or by the very nature of the data collected/retained: at time of an interview, by signed consent form, identified or labelled voice or image recording, pen-and-paper questionnaire, on-line survey instruments, etc.

Whilst data may not have (explicit) identifiers, an individual’s identity can still reasonably be worked out.

Or data may have (explicit) identifiers removed and replaced by codes that permit matching of an individual with the data collected/retained, in which case it is possible to identify or re-identify the person to whom the data relates.)

☒ An Individual is Non- or Un-identifiable

(Data collected/retained anonymously and with no reasonable possibility of being identified.)

Your acknowledgement may require further explanation or clarification; if so, please include in the following box.

The data collected for this research will be anonymous and non-identifiable. The protection of privacy and assurance of anonymity will also be upheld as there are only a small number of demographic details requested as part of the survey, and there will be a large sample pool of participants (approximately 500).

D2 DATA SECURITY (Nb Section D2 Revised Aug 2007)

Please note that “data must be held for sufficient time to allow reference. For data that is published this may be for as long as interest and discussion persists following publication. It is recommended that the minimum period for retention is at least 5 years from the date of publication but for specific types of research, such as clinical research, 15 years (or more) may be more appropriate.” (Sect 4.3 of Swinburne’s Policy on the Conduct of Research)

Please indicate how data (all types of data, including, eg, signed consent forms) will be securely retained (eg, electronic form in password-protected disk drive, locked filing cabinet, etc) and where?

With more than one type of data, will the types be separately stored?

In your explanation, you will need to make clear how due confidentiality and/or anonymity will be maintained.

(a) During the study

Paper copies of the questionnaires will be stored in a locked cupboard at SUT. Data from questionnaires completed and submitted electronically and data derived from paper copies of the questionnaire will be kept on a password-protected spreadsheet held on the SUT main drive.

(b) Following completion of study

The paper copies of the questionnaires will be stored in a locked cupboard and electronic data files will be kept on a password-protected spreadsheet held on the SUT main drive for at least five years as required.
D3 PUBLICATION/OUTPUT (Nb Section D3 Revised Aug 2007)

Please explain in sufficient detail:

(a) What, if any, publication (conference, news media, academic journal, other journal, etc) is envisaged following on or in relation to this project, both in terms of data proper and/or analysis of data?

(b) Will participants be informed about any envisaged research publication/outcome? (This information is normally to be included in the information given prior to obtaining informed consent.)

(c) Would any participants be able to be identified through the publication of data proper or research findings? If so, explain why this is necessary.

(a) It is hoped that academic journal publications will result from this project, including in such journals as Personality and Individual Differences, Cognition and Emotion, Behavior Research and Therapy, Cognitive Therapy and Research, Journal of Personality and Social Psychology.

(b) Participants will be informed of the envisaged research publication on the plain language cover sheet, as well as of the maintenance of their anonymity in such publications.

(c) If the opportunity for publication arises, questionnaire responses would appear anonymously, in the same manner in which they were obtained, and as a result participants in this study would not be able to be identified.

D4 INDIGENOUS ISSUES

Storage arrangements for data relating to research into Indigenous matters must be determined in compliance with the Policy on the Conduct of Research after consultation with the communities involved.

What consultation has taken place and what arrangements have been made.

N/A

D5 OTHER ISSUES (Nb Section D5 Revised Aug 2007)

Are there any other issue relating to data collection, retention, use or disclosure which the ethics committee should be made aware of and, if so, please explain how you are to deal with this.

(Eg. Research outcomes unduly impacting on any individual or group not directly participating, etc.)

N/A
No matters in this section are applicable to the study or

**E1 ADMINISTRATION OF SUBSTANCES/AGENTS**

<table>
<thead>
<tr>
<th>Name of substance(s)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage per administration</td>
<td></td>
</tr>
<tr>
<td>Frequency of administration</td>
<td></td>
</tr>
<tr>
<td>Total amounts to be administered</td>
<td></td>
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Anticipated effects:

**NOTE:** If the research involves administration of foreign substances or invasive procedures, please attach a statement accepting responsibility for those procedures by a medical or paramedical practitioner with Indemnity insurance.

- [ ] STATEMENT ATTACHED

**E2 BODY FLUIDS OR TISSUE**

What fluids or tissue? How will be samples be obtained?

Frequency and volume

How are samples to be stored?

How will samples be disposed of?

Who will take the samples?

What are their qualifications for doing so?

Do participants carry, as far as you know, the Hepatitis B or HIV virus? If so how will the risks be handled

Do participants carry, as far as you know, any other contagious diseases or viruses? If so how will the risks be handled
**SECTION F  DECLARATIONS**

With respect to this project, I / We, the undersigned Investigator(s)/Assistant(s) agree:

- To undertake human research activity or handle data confidentially in accordance with Swinburne requirements, including any standard or special ethics clearance conditions, under the proper direction of the responsible Swinburne manager and/or principal Swinburne (or other) researcher/supervisor.

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<th>NAME: (block letters)</th>
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<tr>
<td>Sarah Buckingham</td>
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<td>Dr Greg Murray</td>
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<td>Professor Mike Kyrios</td>
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All listed applicants must sign. The Chief Investigator/Supervisor is also responsible for personnel subsequently joining the project. Expand this table or duplicate this page as required. NB This information is subject to Swinburne or external audit.

**Please note that**

**PROJECTS MUST NOT COMMENCE WITHOUT PRIOR WRITTEN APPROVAL from the Human Research Ethics Committee (SUHREC) or its appropriate Subcommittee (SHESC)**

**Declaration of Compliance by Chief Investigator(s)/Student Supervisor(s).**

I declare that the above project has been developed and will be conducted in accordance with relevant Swinburne standards, policies and codes of practice, including any standard or special conditions for on-going ethics clearance. I further declare that all listed and subsequently appointed researchers or assistants involved in this project will be made aware of the conditions of ethics approval as communicated to me, including approved documentation and procedures.

Signature & Date: 3/3/08

Name of Signatory & Position: Greg Murray, Senior Lecturer

Form checked by a Research & Ethics Advisor (REA)? Yes ☐ No ☒ REA Initials & Date: 

Endorsement of Head of Academic Unit (or Delegate) or Above.

I declare that this project: has been developed and will be conducted in accordance with relevant Swinburne standards, policies and codes of practice; and has research merit, adequate resourcing and appropriate leadership/supervision.
Signature & Date: ........................................................................................................................................

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Name of Signatory & Position: ..................................................................................................................

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(Please note: This endorsement must be given by an authorised official who is not also a chief or co-investigator of the project and who is not also the supervisor of a student investigator with an interest in the project.)
Appendix Q. Study 2 resubmitted sections of ethics application

The Australian National Statement on Ethical Conduct in Research Involving Humans - requires

1.14 All research proposals must be so designed as to ensure that any risks of discomfort or harm to participants are balanced by the likely benefit to be gained.

1.15 Research must be conducted or supervised only by persons or teams with experience, qualifications and competence appropriate to the research. Research must only be conducted using facilities appropriate for the research and where there are appropriate skills and resources for dealing with any contingencies that may affect participants.

A1 WHY IS THE PROJECT TO BE UNDERTAKEN

Summarise in sufficient detail why the project is being undertaken. If references are quoted, full citations should be given. Include the educational and/or scientific aims of the project. (boxes will expand for your text)

This research aims to advance our understanding of the ways in which individuals can improve their mental health through their active responses to daily mood and emotional experiences (“affect regulation”). Specifically, the project is designed to:

1) Investigate the ways in which individuals respond to and regulate their moods and emotions and the impact of these responses on their overall well-being.

2) Examine how affect regulation variables are related to personality characteristics and vulnerability to psychological disorders.

This research project has been designed in light of the perspective that effective regulation of affect states is a key determinant of mental health versus mental illness (Amstadter, in press; Green & Malhi, 2006; Gross & Levenson, 1997; Gross, 1998; Kring & Werner, 2004) and that it is vital for social adjustment and overall well-being (Campbell-Sills, Barlow, Brown, & Hoffman, 2006). Despite its importance however, knowledge of the affect regulation domain is in its infancy and several questions remain (Kring & Werner). For example, there is not yet an agreed-upon operationalisation of the affect regulation construct and debate is ongoing concerning the theoretical and practical intersections amongst this and such related fields as emotion regulation, mood regulation, coping, defenses and affect control (Gross; Tice & Wallace, 2000). Furthermore, research literature that has comprehensively explored the relation between affect regulation strategies/approaches and well-being outcomes is quite limited. The present study seeks to address this dearth in literature concerning the affect regulation process, in terms of questions related to definitions, measurement and relationships with well-being and vulnerability to psychopathology. It is hoped that the project will provide practical information on how mental health can be improved by particular ways of relating and responding to mood and emotional experiences.

Full citations of above listed references (in order of presentation):

A2 WHAT - BRIEF DESCRIPTION OF PROJECT

In plain English

This research project aims to explore the ways in which individuals respond to and regulate their moods and emotions and the impact of these responses on their overall well-being. Self-report data will be collected from a general population sample about the strategies individuals use to regulate their moods and emotions, and the ways in which individuals more generally experience, approach and process their emotional experiences. This data will be subjected to analyses to investigate how these factors relate to: personality characteristics; level of well-being; and vulnerability to psychological disorders.
A3  **HOW - PROCEDURES**

Please detail clearly and sufficiently the proposed research/statistical method(s), procedures and instruments to be used in the project, including all screening and research 'procedures' to which the participants will be subjected, and asterisk those which may have adverse consequences.

Please include as appendices all screening instruments, questionnaires, interview protocols etc (at least in draft form if not finalised).

| Participants will anonymously complete a questionnaire that contains a battery of measures, including: the Difficulties in Emotion Regulation Scale (DERS, Gratz & Roemer, 2004); the International Personality Item Pool (IPIP, Goldberg, 1999); a 15-item adapted version of Thayer’s (1994) mood self-regulation inventory; the Kessler-10 (K-10, Kessler et al., 2002) measure of psychological distress; a 20-item adapted version of Depue and Klein’s (1988) General Behavior Inventory; the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988); the Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985) and Ryff’s (1989) psychological well-being scale. There will also be some demographic questions, concerning age, gender, country of birth, country of residence, marital status, employment status and highest level of educational attainment. Lastly, there will be a screening question that asks participants whether they have ever been treated for a psychological disorder, and if so, to please state the diagnosis that may have been given. Participants will complete the questionnaire either online or in paper-and-pencil format. Those who complete a paper copy of the questionnaire will return this anonymously via a stamped, self-addressed envelope. Paper copies of the questionnaire completed by Swinburne students will be returned anonymously via a marked box in a University building. |

If you feel that it is necessary to include further material, please append.
SECTION B: ETHICAL ISSUES OVERVIEW

B ETHICAL ISSUES

[Double-click on □ YES/NO ‘check box’ to select box, then enter Default Value as Checked □ or leaving as Not
Checked □ ]

( ) Non-/Limited Disclosure or Deception: Is any detail in relation to research purposes, methods or
questions being withheld from participants? Or will deception of any kind be involved? Or any
covert/undeclared observation? (Refer National Statement Chap 17)

( ) Does the data collection process involve access to confidential personal data (including access to data
provided for a purpose other that this particular research project) without the prior consent of subjects?

( ) Will participants have pictures taken of them, e.g., photographs, video recordings?
If "YES", please explain how you intend to retain confidentiality and ultimately dispose of the material.

( ) If interviews are to be conducted, will they be record by electronic device?
If "Yes", please explain how you intend to retain confidentiality and ultimately dispose of the material.

( ) Will participants be asked to perform any acts or make statements which might compromise them,
diminish self esteem or cause them embarrassment or regret (minimal, moderate or significant)?

( ) Might any aspect of your study reasonably be expected to place the participant at risk of criminal or civil
liability (not just immediately or directly)?

( ) Might any aspect of your study reasonably be expected to place the participant at risk of damage to
their professional/social/cultural/financial standing or employability?

( ) Will the research involve access to data banks subject to privacy legislation?*

(NOTE: Annual reporting to Government may be required on this item. For info: please contact the Research Ethics Officer.)

( ) Will participants come into contact with any equipment which uses an electrical supply in any form e.g.,
audiometer, biofeedback, electrical stimulation, magnetic stimulation, etc.? If "YES", please outline
below what safety precautions will be followed.

( ) Will any treatment be used with potentially unpleasant or harmful side effects?

( ) Does the research involve any stimuli, tasks, investigations or procedures which may be experienced
by participants as stressful, noxious, aversive or unpleasant during or after the research procedures?

( ) Will the research involve the use of placebo control conditions or the withholding/substitution of
treatment, programs or services (health, educational , commercial, other)?

( ) Will any samples of body fluid or body tissue be required specifically for the research which would not
be required in the case of ordinary treatment?

( ) Will participants be fingerprinted or DNA "fingerprinted"?

( ) Are there in your opinion any other ethical issues involved in the research?

NOTE: If the answer to any of the above questions is "yes", please explain and justify below in sufficient clear
detail. (The box below will expand to fit your response.)

Two of the measures being used in the questionnaire (the Kessler-10 scale of psychological distress and the items adapted from the General
Behavior Inventory) contain questions that could potentially cause distress for participants as they contemplate and answer these. An
example of such items includes: “In the last 4 weeks, about how often did you feel so sad that nothing could cheer you up?” (from the K-10)
and “Have you had periods when it seemed that the future was hopeless and things could not improve?” (from the GBI). The potential for
distress arising in response to these questionnaires has been considered by the researchers, and accordingly - details of counselling and
support services that respondents may access are provided on the plain language cover sheet. Further, because participation in the study is
voluntary, anonymous and individuals are free to withdraw their participation at any time, no serious repercussions as a result of responding
to the items on these two measures are foreseen.

In addition, items (e) and (k) above have been checked in relation to a particular question contained in the survey for this project –

Have you ever been treated for a psychological disorder? (please circle)  YES  NO

If so, were you given a diagnosis? Please state.................................................................

This question has been included as part of this project in order to make the scientifically important distinction between people who are
vulnerable to disorder but have not shown any signs (indicated by K10 and GBI measures discussed above) and people who are vulnerable to disorder and have experienced a diagnosable episode (indicated by this single question). This distinction is important and necessary for this study as research pertaining to the relationship between affect regulation processes and psychopathology is very minimal (Kring & Werner, 2004) and the current project is seeking to make steps to address this deficiency. It is anticipated that this item will not be of serious concern for participants responding to the questionnaire as their involvement in the project is voluntary, anonymous and they are free to withdraw at any time. Further, details of available psychological counselling services and support are provided on the Plain Language Statement should they experience any distress during this study experience.
Appendix R. Unpublished manuscript reporting on development of MRI/ARI

INDIVIDUAL DIFFERENCES IN MOOD REGULATION: GENDER AND MOOD CORRELATES OF A NEW THREE-DIMENSIONAL MEASURE

Sarah Pirzas
Greg Murray*

Faculty of Life and Social Sciences,
Swinburne University of Technology
AUSTRALIA

* To whom all correspondence should be addressed: Dr Greg Murray, Faculty of Life and Social Sciences, Swinburne University of Technology, Hawthorn Victoria 3122, AUSTRALIA. Email: gwm@swin.edu.au Ph: + 61 3 9214 8300, Fax: + 61 3 9819 0574.
SUMMARY

The aim of the present study was to advance understanding of the concept of mood regulation by exploring the factor structure of a set of items relating to mood regulation strategies, and exploring the correlates of a self-report measure developed from this structural analysis. A volunteer sample of 204 adults (age $M = 37.74$, $SD = 11.60$, 62.7% female) completed a questionnaire containing a version of Thayer et al.’s (1994) 29 item mood regulation checklist modified to permit Likert scoring of the extent to which strategies are used. Participants also reported on their mood over the past week, as measured on the Positive and Negative Affect Schedule. As expected, the 29 items demonstrated a three dimensional latent structure, and a comprehensive, brief, internally reliable, three-dimensional measure of mood regulation was generated. Scores on this new Mood Regulation Inventory showed expected relationships to gender (females reported significantly greater use of passive strategies) and state mood (active and distracting strategies were associated with improved mood, passive strategies were associated with poorer mood). Moreover, some analogue support for the response-styles theory of depression was found, in that lower mood amongst females was partially mediated by elevated use of passive mood regulation strategies. It is concluded that mood regulation can be reliably and validly measured as a three-dimensional individual difference variable and future research into this clinically important construct is encouraged.

KEYWORDS: depression, female, distraction, passive, active
The concept of mood regulation is prominent clinically and theoretically (Campbell-Sills, Barlow, Brown, & Hoffman, 2006; Gross, 1998). Deficiencies in mood regulation are hypothesised to be pathogenic in borderline personality disorder (Linehan, 1993) and bipolar disorder (Kring & Werner, 2004), and techniques aimed at improving mood regulation skills are central in cognitive behavioural therapies (Kirby & Baucom, 2007; Rohde, Feeny & Robins, 2005). Theoretically, the concept intersects with the notion of emotion regulation (Gross), which is the subject of intense research in affective neuroscience (e.g., Davidson, 1998; Jackson et al., 2003). It is remarkable, therefore, that the concept of mood regulation has not been subjected to systematic empirical work. The overarching aim of the present project was to encourage systematic exploration of the construct by, i) developing a psychometrically sound multi-dimensional measure of mood regulation, and ii) testing expected relationships between mood regulation strategies, gender and mood/wellbeing outcomes.

A primary limitation of extant mood regulation literature is the absence of an agreed operationalisation of the construct. In an early series of studies, Thayer, Newman and McClain (1994) identified 29 types of mood regulation strategy, which could be factored into six dimensions: i) Active Mood Management, ii) Seeking Pleasurable Activities and Distraction, iii) Passive Mood Management, iv) Social Support, Ventilation and Gratification, v) Direct Tension Reduction, and vi) Withdrawal-Avoidance. A limitation of this seminal work was the reliance on checklists rather than dimensional response formats, impeding conclusions about individual differences in mood regulation strategy use. Subsequent research by Parkinson and Totterdell (1999) identified a multi-dimensional structure overlapping somewhat with that of Thayer et al. (1994). Although Parkinson and Totterdell’s work was based on dimensional response formats (and therefore an advance on the approach of Thayer), no attempt was made to develop a comprehensive measure suitable for investigating individual differences in strategy use.

In the absence of a consensual taxonomy of mood regulation, research into the correlates of mood regulation strategies has been broad and poorly integrated (e.g.,
Fichman, Koestner, Zuroff, & Gordon, 1999; Nolen-Hoeksema, 1991; Totterdell & Parkinson, 1999; Stevens & Lane, 2001). Nonetheless, some reliable relationships have been found. First, associations have been demonstrated between mood regulation strategy use and state mood. A number of findings suggest that passive mood regulation strategies (e.g., emotional venting activities such as crying) are related to negative mood while active (e.g., analysing the problem) or distracting (e.g., engaging in pleasant activities) strategies are associated with positive mood states (Broderick, 2005; Fichman et al., 1999; Totterdell & Parkinson).

Second, gender appears to be associated with mood regulation choice, with females being more prone to employ passive mood management strategies (Thayer et al., 1994). Indeed, Nolen-Hoeksema’s (1987, 1991) ‘response styles theory of depression’ posits that gender differences in depression prevalence result from women’s greater use of emotion-focused or passive mood regulation strategies. This theory accords with the association described above between passive strategies and negative mood, and has received support in a number of studies (e.g., Ellen Li, DiGiuseppe, & Froh, 2006; Rusting & Nolen-Hoeksema, 1998; Thayer et al.; Thomsen, Mehlsen, Viidik, Sommerlund, & Zachariae, 2005).

The present study

The field would benefit from an agreed operationalisation of mood regulation as a multi-dimensional construct and the present study was designed to take a first step in this direction. Building on Thayer et al.’s (1994) seminal work, we sought first to assess the latent structure of mood regulation. Based on existing research, three latent dimensions were expected to arise in the data – passive, active and distracting. Next, on the basis of information from the factor analysis and existing literature, we sought to develop a brief, comprehensive and psychometrically sound measure of individual differences in mood regulation. Finally, we tested a number of predicted external correlates of scores on this new instrument. Assuming the latent structure in our data paralleled the dimensions highlighted in the literature, we predicted firstly that the use of passive mood strategies would be detrimental, while the use of active strategies and distracting strategies would be beneficial for mood (Hypothesis 1a, b and c). We
further predicted that, compared with males, females would use more passive mood regulation strategies (Hypothesis 2). Third, as a non-clinical analogue of the response-styles theory of depression (Nolen-Hoeksema, 1987, 1991), we predicted that the relationship between gender and lowered mood would be mediated through the use of passive strategies (Hypothesis 3).

An advance over previous research was the use of theoretically derived measures of mood, specifically the Positive Activation (PA)/Negative Activation (NA) scheme of Watson and colleagues {Watson, Wiese, Vaidya, & Tellegen, 1999}. Under this two-dimensional scheme, “unpleasant” mood states can be differentiated on their motivational features: low PA is the relative absence of positive motivation towards the environment, high NA is the presence of motivation to address environmental threat. It has been proposed that separate processes may be involved in regulating PA and NA (Larsen, 2000), and that PA and NA may be differentially affected by different behavioural strategies (Blanchard-Fields, Stein, & Watson, 2004; Stevens & Lane, 2001). For completeness in representing mood, an ‘affect balance’ score was also calculated as the simple difference between PA and NA scores (see, e.g., Larsen, 2000).

2. Method

2.1 Participants

The sample comprised 204 adult volunteers (age $M = 37.74$, $SD = 11.60$, 62.7% female). The majority of participants were Australian-born ($n = 163$, 79.9%) and well-educated, with 150 (73.8%) having completed tertiary studies.

2.2 Materials

A questionnaire was designed to assess mood regulation strategy use and state mood. The questionnaire also collected demographic information (age, gender, country of birth, education, employment and marital status).
2.2.1 Mood Regulation

Use of mood regulation strategies was assessed with an adapted version of an existing instrument, specifically the 29 item checklist developed by Thayer and colleagues (1994). In the present study, instead of checking use or otherwise, participants rated the extent to which they used each of the 29 strategies on a 5-point Likert response scale (1 = “never” and 5 = “very frequently”). The wording of the instructions was “This section includes a measure that asks you questions concerning your usual practices of changing or regulating mood. By circling a response from the options provided, please indicate the extent to which you adopt the following strategies to try to improve your mood.”

2.2.2 State Mood

Mood was measured on the 20-item Positive and Negative Affect Schedule (PANAS, Watson, Clark, & Tellegen, 1988). This scale comprises 10 items measuring Positive Affect (PA) and 10 items measuring Negative Affect (NA), and is widely used to capture the established two-dimensional mood model at the general factor level (Watson & Tellegen, 1985; Watson et al., 1999). Items are rated on a 5-point Likert scale, where 1 = “very slightly or not at all” and 5 = “extremely”. The sound psychometric properties of the PANAS have been demonstrated in previous studies (Crawford & Henry, 2003; Watson et al., 1988). Participants in the present study rated their mood over the past week, deemed to be the most meaningful timeframe for capturing the mood impact of adaptive behaviours. Beyond PA and NA, a composite mood variable, ‘affect balance’, was also created as the simple difference between PA and NA scores.

2.3 Procedure

An availability sample was developed via snowball sampling. Participants returned anonymous questionnaires to the researchers using pre-paid envelopes, and informed consent was implied by return of the completed questionnaire.
2.4 Statistical Treatment

The latent dimensionality of mood regulation was investigated via an initial confirmatory factor analysis on the 29 modified Thayer et al. (1994) items. All 29 items were subject to a principal components analysis and inspection of the scree plot was used to determine how many factors to retain. These factors were then subject to varimax rotation to generate an initial ranking of items in terms of their factor loadings on the revealed latent dimensions. Three criteria were used to develop a brief but comprehensive measure of mood regulation based on the results of the initial confirmatory factor analysis. First, the 5 items that had the strongest loadings on the identified factors were selected as potential items. Second, items which replicated content in higher loading items were removed. Third, some items that did not meet the factor loading criterion were added because of their recognised importance in the literature. The psychometric properties of this abbreviated set of items were investigated using a second confirmatory factor analysis and internal reliability alpha for the developed subscales.

The setting of Hypotheses 1a, b and c was based on concepts of ‘passive mood regulation’, ‘active mood regulation’ and ‘distraction’ identified by the literature. The testing of Hypotheses 1a, b and c was based on the dimensions of mood regulation derived in this study.

Testing of Hypothesis 3 (that use of Passive Mood Management mediates the relationship between gender and PA/affect balance) was contingent on females in the sample exhibiting lower PA or affect balance than males. In that event, mediation was to be tested using the procedure of Baron & Kenny (1986).

3. Results

3.1 Descriptive analyses

Examination of the modal response on mood regulation strategy items indicated the vast majority of strategies (21 of the 29) were reportedly used ‘sometimes’ by participants. A small number of strategies were reportedly used ‘frequently’ by
participants and had a modal score of 4. These included *evaluate or analyse the situation to determine the mood cause* (42.6%), *try to put feelings in perspective* (51.5%), *listen to music* (31.9%), *get support from others* (31.9%), and *try to solve things* (52%). Strategies with a modal score of 1 or 2 indicating they were used ‘rarely or never’ included *engage in religious activity, engage in emotional activity, drink alcohol, smoke cigarettes, use drugs, and avoid thinking about things.*

The histogram of PA indicated scores were normally distributed around a mean of 34.96 (*SD* = 7.65). Scores on NA were significantly positively skewed, with a mean of 16.86 (*SD* = 6.62). These scores are comparable to published norms for these scales (Watson et al., 1988). The histogram of affect balance indicated scores were significantly negatively skewed, with a mean of 18.09 (*SD* = 11.12).

### 3.2 Latent structure of mood regulation

The 29 mood regulation items were factor analysed using a principal-components analysis (PCA). According to Kaiser’s criterion, 11 factors were present in the data set, together accounting for 64.4% of the variance. However, the scree plot displayed a gradual tailing off after the third factor. The PCA was therefore repeated with three factors extracted. A varimax rotation of these three factors identified three broad dimensions underlying the items. This solution accounted for a reasonable portion of the variance in the 29 items (28.7%) and showed simple structure, as each item loaded significantly on only one factor.

Fifteen items were next chosen for inclusion in the questionnaire. Items selected were those that displayed the highest factor loadings in the initial analysis, and those with recognised importance in the literature. The 15 selected items were then analysed using a second PCA, with retained factors subject to varimax rotation. Not surprisingly, inspection of the scree plot confirmed a three-factor structure. Results of the varimax rotation of these three factors (accounting for a total 40.7% of the variance) are presented in Table 1.
The first dimension was labelled Active Mood Management, as it comprised items that involved actively addressing one’s mood state, including cognitive-oriented and problem-focused approaches. The second dimension was labelled Passive Mood Management, as it comprised strategy items that did not involve actively engaging with mood, but instead, indirect attempts at reducing associated tension and symptoms. The third dimension was labelled Seeking Pleasure and Distraction, as it consisted largely of items that involved engaging in a pleasant activity, which could be thought to improve mood by diverting attention away from affect.

3.3 The Mood Regulation Inventory

The three derived dimensions of mood regulation (Table 1), demonstrated adequate internal reliability when viewed as five-item scales (coefficient alphas of .66, .58 and .57 for Active Mood Management, Passive Mood Management and Seeking Pleasure and Distraction respectively). Scores on the Active Mood Management and Passive Mood Management scales were unrelated ($r = -.01$), while both of these scales had moderate positive associations with the Seeking Pleasure and Distraction scale ($r = .20$ and $r = .23$, respectively, $p < .01$ in each case). Given the face validity and internal consistency of these three scales, it was provisionally concluded that they could be combined into a three-dimensional measure of individual differences in mood regulation. The brief self-report questionnaire was named the Mood Regulation Inventory (MRI).

3.4 Mood regulation and state mood

Pearson product-moment correlations between the three mood regulation scales and state mood are shown in Table 2. Hypothesis 1a was supported, insomuch as Passive Mood Management was associated with poorer mood state (viz., increased NA and decreased affect balance). Hypothesis 1b and 1c were supported, insomuch as Active Mood Management and Seeking Pleasure and Distraction were associated with better
mood state (viz., increased PA and increased affect balance [significant only in the latter case for Active Mood Management]).

3.5 Mood regulation and gender

Univariate analysis of variance (ANOVA) was used to examine gender differences in use of the three types of mood regulation (see Table 3). As predicted (Hypothesis 2), female participants scored significantly higher on Passive Mood Management ($F(1, 203) = 6.14, p < .05, \eta^2 = .03$). No gender differences were found on Seeking Pleasure and Distraction ($F(1, 203) = .11, p > .05$) or Active Mood Management ($F(1, 203) = 3.07, p > .05$).

3.6 Gender, passive mood regulation and lowered mood

As shown in Table 4, females in the present sample reported poorer mood on average than males. Average levels of both PA and affect balance were significantly lower for females than males, and a non-significant trend for NA to be elevated amongst females was found.

As shown in Table 2, Passive Mood Management was significantly related to poorer affect balance, but not significantly associated with lower PA, so the study’s mediation hypothesis was tested using the former mood variable only. A linear regression analysis was conducted, with affect balance as dependent variable.

Consistent with partial mediation, although gender remained a significant predictor
when Passive Mood Management was entered into the model at Step 2, there was a reduction in the relevant beta value (Step 1: $\beta = -0.17, p < .05$; Step 2: $\beta = -0.14, p < .05$).

4. Discussion

The present project aimed to address three fundamental questions about mood regulation as a step towards clarifying the nature of the concept. The study generated orderly findings with intelligible relationships to existing research.

Building on the seminal work of Thayer et al. (1994), three broad dimensions of mood regulation were identified. These dimensions were active engagement with mood in an attempt to help change the situation (Active Mood Management), passive response to the mood and its associated symptoms (Passive Mood Management), and dealing with the mood by diverting attention away from affect (Seeking Pleasure and Distraction). This solution explained close to half of the variance (40.7%) in the 15 individual items.

The three-dimensional model of mood regulation derived here is consistent with a number of existing findings. In their factor analysis of the original 29-item checklist, Thayer et al. (1994) presented both a three and six-factor solution, and identified similar groupings in both these solutions. For example, in the studies of Thayer et al., Active Mood Management comprised strategies that directly attempted to resolve the mood disturbance, via cognitive-control and stress management techniques, and similar Seeking Pleasurable Activities and Distraction and Passive Mood Management dimensions were found. As in the present study, Parkinson and Totterdell (1999) identified a distinction between strategies that actively engaged with mood and those that diverted attention away from mood. These comparable results concerning the number and type of dimensions needed to explain active stress response strategies give some confidence that the three dimensional model identified here may generalise beyond the present sample.
The three five-item scales derived from the recovered three-dimensional structure of mood regulation showed adequate internal reliability. They were therefore combined into a novel, brief three-dimensional self-report measure of individual differences in mood regulation (the Mood Regulation Inventory [MRI]).

Investigation of state mood correlates of mood regulation vindicated the decision to distinguish between PA and NA in the measurement of mood: the pattern of relationships for PA was inverted for NA (Table 2). This pattern of findings supports the proposal that different regulation processes are likely involved in regulating PA and NA (Larsen, 2000).

As predicted, Active Mood Management and Seeking Pleasure and Distraction were shown to be beneficial to mood over the past week. Scores on Active Mood Management were significantly associated with higher PA and tended to be associated (non-significantly) with higher affect balance scores. Scores on Seeking Pleasure and Distraction were significantly associated with higher PA and affect balance. These findings accord with previous research. For example, Thayer et al. (1994) found Active Mood Management and Seeking Pleasurable Activities and Distraction were rated as highest in effectiveness. Likewise, in their investigation of the impact of mood regulation strategies on well being, Totterdell and Parkinson (1999) identified that active, distracting and cognitively-oriented strategies, were associated with improved mood. Finally, Broderick (2005) found that distracting oneself in response to dysphoria was related to improved mood.

In contrast, Passive Mood Management was positively related to NA and negatively to affect balance, indicating as predicted that use of these strategies is associated with poorer mood. These findings are in line with previous studies finding passive and emotion-focused strategies to be rated by individuals as ineffective (Thayer et al., 1994) and to be related to worse mood (Totterdell & Parkinson, 1999; Fichman et al., 1999; Nolen-Hoeksema, 1991).
The present study also replicated a previously reported gender difference in strategy use, viz., as predicted in Hypothesis 2, women reported more use of Passive Mood Management strategies. As noted above, the strategies represented by this dimension were found to have a negative impact on mood (viz., the dimension was positively associated with state NA, negatively associated with affect balance and negatively [albeit non-significantly] with PA).

Mediation analyses found some support for Hypothesis 3, that poorer mood amongst females would arise via greater use of passive mood management – the association between gender and affect balance was slightly reduced when Passive Mood Management was included in the regression model. According to Nolen-Hoeksema’s response styles theory of depression (1987; 1991; 1993), elevated rates of clinical depression in women result from their tendency to engage in passive, ruminative mood responses. The present findings offer some support for this theory by analogy in a non-clinical population: lowered mood (as indicated by the ratio of PA to NA) in females was partially accounted for by the tendency towards passive mood regulation strategies.

Importantly, no gender difference arose in Seeking Pleasure and Distraction, a finding which is consistent with previous studies (Ellen et al., 2006; Strauss, Muday, McNall, & Wong, 1997). Taken together, past and current findings highlight that women’s unproductive tendency towards passive mood regulation strategies does not preclude their use of more productive strategies aimed at seeking pleasure and distraction.

The study had a number of limitations. First, generalisability of the findings is limited by the use of a single somewhat rarified, sample. Second, the mood outcome variables were measured in state mood retrospected over the preceding week. Future studies could investigate this question more directly by longitudinally monitoring moods and mood regulation strategies. Finally, conclusions about causality cannot be drawn from the present correlational design. It is possible, for example, that negative affect induces a sense of dependence on passive strategies of mood regulation.
In summary, the current research identified a three-dimensional model of mood regulation which is consistent with a range of previous findings. It appears that mood regulation strategies can be meaningfully grouped according to whether they are active and problem-focused, passive and emotion-focused or distracting and designed to divert attention away from unpleasant moods. A novel, psychometrically sound measure of individual differences in mood regulation, the MRI, was developed from this analysis. Interpretable relationships were identified between scores on MRI scales and state mood, providing support for the validity of the model and its associated brief measurement instrument. Results also supported the contention that active and distracting strategies are generally effective ways of responding to mood disturbance, while passive approaches are potentially counterproductive. Consistent with previous research, passive mood regulation strategies were more prominent among females, and it was found that greater use of these strategies partially accounted for the poorer mood of females. Habitual choices of strategy around mood regulation are recognised as an important target of cognitive-behavioural interventions and indeed certain habits may be significant in pathogenesis. The present findings support future research into this important construct, and particularly encourage use of the new instrument generated here as an internally reliable, brief, comprehensive individual difference measure.
References


Table 1  
*Varimax Rotation of Three-Factor Solution for the 15 Mood Strategy Items*

<table>
<thead>
<tr>
<th>Mood Regulation Strategy Item</th>
<th>Factor One</th>
<th>Factor Two</th>
<th>Factor Three</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Active Mood Management</td>
<td>Passive Mood Management</td>
<td>Seeking Pleasure and Distraction</td>
</tr>
<tr>
<td>Evaluate or analyse situation to determine mood cause</td>
<td>.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Put feelings in perspective</td>
<td>.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control thoughts</td>
<td>.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engage in stress management activities</td>
<td>.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use relaxation techniques</td>
<td>.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eat something</td>
<td></td>
<td>.70</td>
<td></td>
</tr>
<tr>
<td>Drink caffeinated beverage</td>
<td></td>
<td>.64</td>
<td></td>
</tr>
<tr>
<td>Watch TV</td>
<td></td>
<td>.63</td>
<td></td>
</tr>
<tr>
<td>Engage in emotional activity</td>
<td></td>
<td>.56</td>
<td></td>
</tr>
<tr>
<td>Drink alcohol</td>
<td></td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td>Exercise</td>
<td></td>
<td>.65</td>
<td></td>
</tr>
<tr>
<td>Have sex</td>
<td></td>
<td>.65</td>
<td></td>
</tr>
<tr>
<td>Engage in pleasant (fun) activities</td>
<td></td>
<td>.64</td>
<td></td>
</tr>
<tr>
<td>Listen to music</td>
<td></td>
<td>.51</td>
<td></td>
</tr>
<tr>
<td>Call, talk to, or be with someone</td>
<td></td>
<td>.44</td>
<td></td>
</tr>
<tr>
<td>% of variance explained</td>
<td>15.2</td>
<td>12.9</td>
<td>12.7</td>
</tr>
</tbody>
</table>

Note. Only loadings above .3 are displayed.  
*N* = 204
Table 2

*Correlations Between Mood Regulation Inventory Scales, Dimensions of State Mood (Positive Affect and Negative Affect) and Affect Balance Scores*

<table>
<thead>
<tr>
<th></th>
<th>Positive Affect</th>
<th>Negative Affect</th>
<th>Affect Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Active Mood Management</td>
<td>.24***</td>
<td>.07</td>
<td>.12</td>
</tr>
<tr>
<td>2. Passive Mood Management</td>
<td>-.09</td>
<td>.25***</td>
<td>-.21**</td>
</tr>
<tr>
<td>3. Seeking Pleasure and Distraction</td>
<td>.31***</td>
<td>.04</td>
<td>.19**</td>
</tr>
</tbody>
</table>

* * p < .05; ** p < .01; *** p < .001
Table 3
*Means and Standard Deviations of Mood Regulation Inventory Scale Scores by Gender*

<table>
<thead>
<tr>
<th></th>
<th>Male (n = 76)</th>
<th></th>
<th>Female (n = 128)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Active Mood Management</td>
<td>15.5</td>
<td>3.4</td>
<td>16.3</td>
<td>2.7</td>
</tr>
<tr>
<td>Passive Mood Management</td>
<td>13.2</td>
<td>2.7</td>
<td>14.3*</td>
<td>3.0</td>
</tr>
<tr>
<td>Seeking Pleasure and</td>
<td>15.8</td>
<td>2.9</td>
<td>16.0</td>
<td>2.8</td>
</tr>
<tr>
<td>Distraction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* *p < .05
Table 4
*Gender Differences in Mean Scores on Mood Variables*

<table>
<thead>
<tr>
<th></th>
<th>Male (n = 76)</th>
<th>Female (n = 128)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Affect</td>
<td>36.4</td>
<td>34.1*</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>15.8</td>
<td>17.5</td>
</tr>
<tr>
<td>Affect Balance</td>
<td>20.6</td>
<td>16.6*</td>
</tr>
</tbody>
</table>

* *p < .05*