Relationship Cognition in Intimate Partner Violence and Post-Relationship Stalking

by Svenja Senkans

A Thesis by Associated Papers

submitted to Swinburne University of Technology

in fulfilment of the requirements for the degree of Doctor of Philosophy

Centre for Forensic Behavioural Science

Swinburne University of Technology

Melbourne, Australia

(2017)
1 Preamble

1.1 Acknowledgements

First, I would like to acknowledge my principal supervisor Dr Troy McEwan who mentored me throughout the doctoral degree. Her guidance helped me not only to complete this thesis but also to refine the research projects’ focus and research questions, improve my scientific writing, advance my presentation skills, and quite a few other things. I would also like to express my gratitude to my secondary supervisor Professor James Ogloff for his steady support in the background and reviewing final drafts of this thesis. In addition, I would like to thank Professor Michael Daffern, Dr Stephen Lübbers, Dr Rachael Fullam, and other CFBS and Swinburne staff who have served as panel members on my candidature milestone reviews. Their critical scrutiny of the research project and associated timelines was always helpful. I would also like to thank Brett McIvor and Maree Stanford for their practical support and for their availability for friendly, random conversations.

I would like to thank my colleagues-office mates-friends at the CFBS (in alphabetical order): Rana Abou-Sinna, Delene Brookstein, Dr Lillian de Bortoli, Marie Henshaw, Jake Hoskin, Dr Margaret Nixon, Innes Seric, Dr Daniel Shae, Dr Steph Shepherd, Melanie Simmons, Dr Benjamin Spivak, and Ming Wai for inspiring (and random) discussions during lunch breaks and afternoon dips, occasional co-rumination, and emotional support. I would also like to extend my thanks to all individuals who have contributed to this research as participants.

Last, I would like to acknowledge my husband Benjamin Senkans, my sister-in-law Melissa Senkans, and my family and friends in Germany. Benji, for all his never failing humour, ability to put things into perspective, and giving me the opportunity to organise my thinking by “giving him the gist of it”. Melissa, for her emotional support, functional support after my move to Australia, and interest in the subject area. My family in Germany and less than a handful of old friends (you know who you are) for accepting my nomadic lifestyle in the name of education.
1.2 Candidate Declaration

I declare that the examinable outcome:

1. contains no material which has been accepted for the award to me of any other degree or diploma;
2. to the best of my knowledge contains no material previously published or written by another person except where due reference is made in the text of the examinable outcome; and,
3. where the work is based on joint research or publications, discloses the relative contributions of the respective workers or authors (see 9.1).

I also warrant that I have obtained, where necessary, permission from the copyright owners to use any third party copyright material reproduced in the thesis (such as artwork, images, unpublished documents), or to use any of my own published work (such as journal articles) in which the copyright is held by another party (such as publisher, co-author; see 9.2).

Svenja Senkans

16/12/16
1.3 Thesis Abstract: Relationship Cognition in Intimate Partner Violence and Post-Relationship Stalking

Intimate Partner Violence (IPV) and Post-Relationship Stalking (PRS) are public health concerns that affect millions of people worldwide. This thesis sought to add new knowledge about IPV and PRS by addressing two related research aims: Research Aim 1) The interconnectedness of IPV and PRS; and, Research Aim 2) The nature of cognitions associated with each of these behaviours. The thesis is presented in the form of five associated papers, which are introduced by an overview chapter.

The first manuscript addresses the research aims from a theoretical perspective. It proposes an integrated theoretical model of IPV and PRS perpetrators’ cognition drawing from the IPV and PRS risk marker, social-information processing theory, and relational schema theory literatures. The integrated theory’s main proposal is the presence of Aggressive Relational ScheMas (ARMs), cognitive structures that combine problematic relationship cognition, aggressive or antisocial cognition, and gender cognition. The paper then explores the implications of the concept of ARMs for future research and clinical practice in the area of relationship aggression.

The remaining manuscripts address the research aims empirically using a gender-inclusive sample (total \( n = 913 \); females = 627; subsample used in the second thesis paper). The second thesis paper explores the thus far poorly understood link between IPV and PRS. The main finding was that in men, a meaningful link between IPV and PRS perpetration was detected, while IPV and PRS perpetration were unrelated in women. The third and fifth thesis papers focus on cognitive correlates of IPV and PRS perpetration. In men, general violence-supportive attitudes and relationship-specific entitlement predicted both IPV and PRS. In women, stalking-supportive attitudes and relationship-specific entitlement predicted IPV, while stalking was solely predicted by IPV-supportive attitudes. Where the third thesis paper investigated cognitive content associated with relationship aggression, the fifth thesis paper examined the role of an important cognitive process, rumination. Using the newly developed Relationship Rumination Questionnaire (RelRQ; fourth thesis paper, independent samples) and controlling for general rumination and victimisation experiences, the study found that relationship rumination did not meaningfully predict IPV. In contrast, relationship-specific rumination was predictive of stalking of former partners. Although the effect was evident across gender, it was a moderate-to-strong effect in men and a small effect in women.
An Integrated Discussion Chapter reflects on the projects’ findings and implications. Taken as a whole, the empirical studies provide a range of novel information about how perpetrators of IPV and PRS think about relationships and relationship aggression and the interconnectedness of IPV and PRS. Of particular note is the common outcome that while both genders perpetrate IPV and PRS, many findings differed between genders – both on a prevalence- and correlate-level. In addition, the studies provide novel empirical evidence that IPV and PRS are related, but not identical phenomena. The empirical findings offer preliminary support for the ARMs model proposed in the first thesis paper. The ARMs model offers a useful framework for further study into relationship aggression perpetrators’ cognition, which can then inform interventions aimed at the reduction of these public health problems.
1.4 Table of Contents

1 Preamble ................................................................................................................................. 2
  1.1 Acknowledgements ...................................................................................................... 2
  1.2 Candidate Declaration ............................................................................................... 3
  1.3 Thesis Abstract: Relationship Cognition in Intimate Partner Violence and Post-
      Relationship Stalking ........................................................................................................... 4
  1.4 Table of Contents ......................................................................................................... 6
  1.5 List of Figures .............................................................................................................. 12
  1.6 List of Tables ............................................................................................................... 13
  1.7 List of Acronyms ......................................................................................................... 15
  1.8 List of Publications Produced by the Candidate as a Result of the Project ............. 16

2 Explanatory Overview Chapter ............................................................................................ 17
  2.1 Table of Contents – Explanatory Overview Chapter ................................................... 18
  2.2 Overarching Research Aims ....................................................................................... 19
      2.2.1 Research Aim 1: Understanding the interconnectedness of intimate partner
          violence and post-relationship stalking ............................................................................ 19
      2.2.2 Research Aim 2: Understanding cognition involved in intimate partner violence
          and post-relationship stalking ......................................................................................... 20
  2.3 Chapter 3: Intimate Partner Violence and Post-Relationship Stalking Perpetrators’
      Cognition as Aggressive Relational Schemas .................................................................... 21
  2.4 Chapter 4: Assessing the Link between Intimate Partner Violence and Post-
      Relationship Stalking: A Gender-Inclusive Study ............................................................ 22
  2.5 Chapter 5: Cognitive and Relationship Characteristics Associated with Intimate
      Partner Violence and Post-Relationship Stalking Perpetration ......................................... 24
  2.6 Chapter 6: Development and Validation of a Relational Rumination
      Questionnaire ...................................................................................................................... 26
  2.7 Chapter 7: The Role of Rumination in Intimate Partner Violence and Post-
      Relationship Stalking ....................................................................................................... 27
  2.8 Synthesis and Conclusions ......................................................................................... 28
  2.9 References .................................................................................................................. 30

3 Intimate Partner Violence and Post-relationship Stalking Perpetrators’ Cognition as
   Aggressive Relational Schemas ............................................................................................. 33
  3.1 Table of Contents ....................................................................................................... 34
  3.2 Abstract ....................................................................................................................... 35
  3.3 Introduction ................................................................................................................ 36
      3.3.1 Existing theoretical explanations for relationship aggression-related cognition. 37
  3.4 Cognitive Structure: Social Information Processing and Relational Schema
      Theories ............................................................................................................................... 38
      3.4.1 A brief integration of Social Information Processing and Relational Schema
          Theory ............................................................................................................................ 40
      3.4.2 Relational schemas ............................................................................................... 41

Preamble
3.4.3 Relational scripts. .................................................................................................................. 43

3.5 Cognitive Content: Aggressive Relational Schemas .............................................................. 44

3.5.1 Relational schemas and scripts underlying personality traits and attachment styles 45

3.5.1.1 Global relational schemas: Personality ................................................................. 45

3.5.1.2 Domain-specific relational schemas: Attachment ................................................. 47

3.5.1.3 Top-down and bottom-up effects of global and domain-specific schemas. 48

3.5.2 Aggression-supportive schemas and scripts. .................................................................... 49

3.5.2.1 Global aggressive schemas: Cognition supportive of general aggression. 50

3.5.2.2 Domain-specific aggressive schemas: Cognition supportive of relationship aggression. 50

3.5.3 Gender Schemas and Scripts .................................................................................... 51

3.6 Summary of ARMs Model .......................................................................................... 53

3.7 Interaction between ARMs and Interpersonal Situations in the Processing of Social Information ........................................................................................................ 54

3.8 Discussion ................................................................................................................... 56

3.8.1 Future directions. .................................................................................................. 56

3.8.2 Limitations ............................................................................................................. 58

3.8.3 Clinical implications. ............................................................................................. 59

3.9 Conclusion ................................................................................................................... 60

3.10 References .................................................................................................................. 60

3.11 Supplementary Material ............................................................................................ 68

3.11.1 Case study 1: Rahul ............................................................................................... 68

3.11.2 Case study 2: Anna ............................................................................................... 70

3.11.3 References .......................................................................................................... 72

4 Assessing the Link between Intimate Partner Violence and Post-Relationship Stalking: A Gender-Inclusive Study .......................................................................................................................... 73

4.1 Table of Contents ....................................................................................................... 73

4.2 Abstract ....................................................................................................................... 74

4.3 Introduction ................................................................................................................ 75

4.3.1 The link between IPV and stalking .......................................................................... 76

4.4 Method ....................................................................................................................... 80

4.4.1 Sample .................................................................................................................. 80

4.4.2 Measures .............................................................................................................. 81

4.4.2.1 Conflict Tactics Scale Revised (CTS-2) ............................................................ 81

4.4.2.2 Stalking Tactics Scale (STS) ........................................................................... 81

4.4.2.3 Socially-desirable responding ........................................................................ 82

4.4.3 Intimate partner violence variable definitions ....................................................... 82

4.4.4 Post-relationship stalking variable definitions ..................................................... 84

4.4.5 Statistical analyses ............................................................................................... 84

Preamble
Preamble
Preamble
Preamble
Preamble
1.5 List of Figures

Figures are numbered consecutively by Chapter.

Figure 3.1 A reformulated social information-processing model of children’s social adjustment by Crick and Dodge .......................................................... 41

Figure 3.2 Systematic elements of role-relationship model (relational schemas). ..... 43

Figure 3.3 Domain-specific relational schemas derived from descriptions of attachment styles in the romantic adult attachment literature ..................................... 47

Figure 3.4 Proposed elements of Aggressive Relational Schemas. ......................... 54

Figure 4.1 Post-Relationship Stalking (%) in Intimate Partner Violence Perpetrators by Gender ...................................................................................................................... 86

Figure 4.2 Intimate Partner Violence (%) in Post-Relationship Stalking Perpetrators by Gender ...................................................................................................................... 87

Figure 4.3 Post-Relationship Stalking Victimisation (%) in Intimate Partner Violence Victims by Gender ...................................................................................................................... 89

Figure 4.4 Intimate Partner Violence Victimisation (%) in Post-Relationship Stalking Victims by Gender ...................................................................................................................... 90

Figure 8.1 A model of the variables associated with two partners engaged in bidirectional intimate partner violence. .............................................................................. 206
### List of Tables

Tables are numbered consecutively by Chapter.

Table 3.1. Summary of Key Attributes of Relational Schemas. ................................................................. 44

Table 3.2 Content of Aggressive Relational Schemas derived from the Personality Literature
................................................................................................................................................................. 46

Table 3.3 Research Questions that can be derived from the ARMs model. .......................... 57

Table 4.1 Reliability Conflict Tactics Scales and Subscales. ......................................................... 81

Table 4.2 Intimate Partner Violence Variables Coding Rules. ......................................................... 83

Table 4.3 Intimate Partner Violence and Post-relationship Stalking Perpetration by Gender.
................................................................................................................................................................. 85

Table 4.4 Correlations between IPV and Post-relationship Stalking Perpetration by Gender.
................................................................................................................................................................. 88

Table 4.5 Intimate Partner Violence and Post-relationship Stalking Victimisation by Gender.
................................................................................................................................................................. 88

Table 4.6 IPV Victimisation Group Differences between Stalking Victims and Non-Victims by Gender. ........................................................................................................................................... 91

Table 4.7 Correlations between IPV and Post-relationship Stalking Victimisation by Gender.
................................................................................................................................................................. 91

Table 5.1 Coding Rules for the Ordinal IPV Severity Variable Created Using Responses on the CTS-2 ............................................................................................................................................... 111

Table 5.2 Descriptive Statistics of Cognitive Variables by Gender................................................. 116

Table 5.3 Univariate Relationships of Cognitive Variables with Relationship Aggression. 117

Table 5.4 Summary of Logistic Regression Analyses Predicting IPV Perpetration Severity (none/low vs. mod/high) by Gender. ............................................................................................................................................... 118

Table 5.5 Summary of Logistic Regression Analyses Predicting PRS Perpetration Severity (none/low vs. mod/high) by Gender. ............................................................................................................................................... 119

Table 6.1 Model Fit Information for Exploratory Factor Analyses .................................................. 138

Table 6.2 Obliquely Rotated Relationship Rumination Questionnaire Factor Loadings.... 139

Table 6.3 Inter-correlations between RelRQ Total Score, RelRQ Subscales, and PTQ. ...... 140

Table 6.4 Model Fit Information for Confirmatory Factor Analyses ................................................. 143

Table 6.5 Factor Loadings of RelRQ in Training and Validation Data Sets .................................... 144

Table 6.6 Convergent Validity of the RelRQ with other Measures ................................................. 148

Table 7.1 Demographic Characteristics of Participants (n = 913). ................................................. 164

---

Preamble
Table 7.2 Coding Rules for the Ordinal IPV Severity Variables Created Using Responses on the CTS-2. ........................................................................................................................165
Table 7.3 Descriptive Statistics of Rumination Predictors (n = 913). ........................................168
Table 7.4 Frequencies (and respective tests) for Predictor Variables as a Function of PRS perpetration (present vs. absent). ......................................................................................169
Table 7.5 Summary of Logistic Regression Analyses Predicting PRS (absent vs. present) by Gender. ........................................................................................................................................170
Table 7.6 Frequencies and Chi-Square tests for Predictor Variables as a Function of IPV perpetration severity (none/low vs. mod/high). ........................................................................171
Table 7.7 Summary of Logistic Regression Analyses Predicting IPV perpetration severity (none/low vs. mod/high). ........................................................................................................172
Table 8.1 Research Questions that can be derived from the ARMs model (reproduced from Thesis Paper 1, Chapter 3, p. 57). ..........................................................................................212

Preamble
1.7 List of Acronyms

Alphabetical list of acronyms used in text including first appearance (page number).

Acronyms used in tables can be found in respective table notes.

Aggressive Relational ScheMas (ARMs), 21
Antisocial Intent (MCA-AI), 112
Balanced Inventory of Desirable Responding (BIDR-6), 82
Conflict Tactics Scale Revised (CTS-2), 81
Entitlement (MCA-E), 112
Impression Management (IM), 82
Intimate Partner Violence (IPV), 19
Intimate Partner Violence Attitude Scale (IPVAS), 112
Measures of Criminal Attitudes and Associates (MCAA), 112
Odd ratio (OR), 84
Post-Relationship Stalking (PRS), 19
Psychological Entitlement Scale (PES), 112
Relational Goal Pursuit Theory (RGPT), 160
Relational Schema Theory (RST), 21
Sense of Relational Entitlement Scale (SRES), 113
Social-Information Processing Theory (SIPT), 20
Stalking Attitude Questionnaire (SAQ), 112
Stalking Tactics Scale (STS), 81
Violence (MCA-V), 112
### 1.8 List of Publications Produced by the Candidate as a Result of the Project

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Co-Authors</th>
<th>Journal</th>
<th>Submission date</th>
<th>Accepted</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Svenja Senkans (candidate) Dr Troy E. McEwan Prof James R. P. Ogloff</td>
<td><em>Psychology of Violence</em></td>
<td>27/9/16</td>
<td>N/A</td>
<td>Submitted</td>
</tr>
<tr>
<td>4</td>
<td>Svenja Senkans (candidate) Dr Troy E. McEwan Prof James R. P. Ogloff</td>
<td><em>Journal of Interpersonal Violence</em></td>
<td>27/9/16</td>
<td>N/A</td>
<td>Submitted</td>
</tr>
<tr>
<td>5</td>
<td>Svenja Senkans (candidate) Dr Troy E. McEwan Prof James R. P. Ogloff</td>
<td><em>Aggressive Behavior</em></td>
<td>27/9/16</td>
<td>N/A</td>
<td>Submitted</td>
</tr>
<tr>
<td>6</td>
<td>Svenja Senkans (candidate) Dr Troy E. McEwan Dr Jason Skues Prof James R. P. Ogloff</td>
<td><em>Personality and Individual Differences</em></td>
<td>19/8/15</td>
<td>12/10/15</td>
<td>Published</td>
</tr>
<tr>
<td>7</td>
<td>Svenja Senkans (candidate) Dr Troy E. McEwan Prof James R. P. Ogloff</td>
<td><em>Social Psychological and Personality Science</em></td>
<td>27/9/16</td>
<td>N/A</td>
<td>Submitted</td>
</tr>
</tbody>
</table>

Preamble
2 Explanatory Overview Chapter
2.1 Table of Contents – Explanatory Overview Chapter

2 Explanatory Overview Chapter .................................................................................................. 17

2.1 Table of Contents – Explanatory Overview Chapter .................................................. 18

2.2 Overarching Research Aims .......................................................................................... 19

2.2.1 Research Aim 1: Understanding the interconnectedness of intimate partner violence and post-relationship stalking ................................................................................................... 19

2.2.2 Research Aim 2: Understanding cognition involved in intimate partner violence and post-relationship stalking ............................................................................................................ 20

2.3 Chapter 3: Intimate Partner Violence and Post-Relationship Stalking Perpetrators’ Cognition as Aggressive Relational Schemas ................................................................................ 21

2.4 Chapter 4: Assessing the Link between Intimate Partner Violence and Post-Relationship Stalking: A Gender-Inclusive Study ..................................................................................... 22

2.5 Chapter 5: Cognitive and Relationship Characteristics Associated with Intimate Partner Violence and Post-Relationship Stalking Perpetration ......................................................... 24

2.6 Chapter 6: Development and Validation of a Relational Rumination Questionnaire ........................................................................................................... 26

2.7 Chapter 7: The Role of Rumination in Intimate Partner Violence and Post-Relationship Stalking 27

2.8 Synthesis and Conclusions ............................................................................................ 28

2.9 References ...................................................................................................................... 30
Intimate Partner Violence (IPV) and Post-Relationship Stalking (PRS) victimisation and perpetration touch millions of individuals across the globe (Esquivel-Santoveña, Lambert, & Hamel, 2013; McEwan & Pathé, 2014; Mitchell & James, 2009). Intimate partner violence and other types of family violence have received much research attention in the last five decades. In contrast, stalking has been relatively recently identified as a crime, with most English-speaking countries legislating against stalking between 1990 – 2000 (McEwan & Pathé, 2014). However, since then both stalkers and stalking victims have been studied extensively (Mullen, Pathé, & Purcell, 2009).

2.2 Overarching Research Aims

Despite extensive research, intervention, and media attention, significant gaps remain in the literature on IPV and stalking. This thesis addresses two inter-related gaps: 1) The interconnectedness of IPV and PRS; and, 2) Cognition involved in IPV and PRS. The thesis consists of five associated papers, which address these two overarching research aims theoretically (Chapter 3) and empirically (Chapters 4-7). A thesis by associated papers, also sometimes called a thesis by publication, consists of independent research papers that form a coherent story. To achieve such coherence, repetition is at times necessary. Each paper has its own reference list (reference disambiguation is within chapters). This explanatory overview chapter will succinctly summarise the papers, how they relate to the two overarching aims of the thesis, and detail the papers’ more specific research questions.

2.2.1 Research Aim 1: Understanding the interconnectedness of intimate partner violence and post-relationship stalking. The first overarching research aim is to study the interconnectedness of IPV and a specific subtype of stalking: Post-relationship stalking. In this thesis, IPV was defined as psychologically, physically, and sexually aggressive behaviour against a current intimate partner (Strauss, Hamby, Boney-McCoy, & Sugarman, 1996). Post-relationship stalking (PRS) may be defined as a pattern of targeted, repeated, and unwanted intrusive acts that can be reasonably expected to cause apprehension, distress, or fear in the victim, and which occurs after a romantic relationship has dissolved (Douglas & Dutton, 2001; McEwan, Shea, Nazarewicz, & Senkans, in press; Mullen et al., 2009).

Due to both behaviours occurring in the romantic relationship context, PRS has often been treated as a component of IPV (Stark, 2007) or an extension of IPV (Walker & Meloy, 1998). This conflation has prevented researchers from establishing what, if any, relationship exists between abuse during a relationship and stalking after its end (McEwan et al., in press). A recent comprehensive review of relevant literature concluded that approximately 50% of cases
involve both IPV and PRS, while approximately another 50% of IPV cases do not go on to PRS, and approximately 35-70% of PRS cases are not preceded by IPV during the relationship (McEwan et al., in press). However, this is a very preliminary estimate given it is based on a small number of methodologically heterogeneous studies. The paper in Chapter 4 attempts to provide further information regarding this question by examining the co-occurrence of these two, seemingly similar behaviours.

While it is important to establish what might differentiate IPV and PRS, it is equally important to recognise that they likely share many risk factors. As Hamby and Grych (2013) note in their review, virtually all types of interpersonal violence, even those that appear different on the surface, share interconnections. As illustrated above, IPV and PRS occur in similar relationship contexts. Also, there may be some overlap between the phenomenology of the behaviours. For instance, IPV perpetrators may show stalking-like behaviours during the relationship such as monitoring their partner’s behaviour. In a similar vein, stalking perpetrators may commit physically violent acts toward their stalking victims. In addition to their overlapping phenomenology, IPV and PRS are also hypothesised to share similar aetiology to some degree (Douglas & Dutton, 2001; McEwan et al., in press).

2.2.2 Research Aim 2: Understanding cognition involved in intimate partner violence and post-relationship stalking. A wide range of individual-level factors such as insecure attachment, personality pathology, general or specific aggressive attitudes, and gender-related cognition have been implicated in both IPV and PRS (see paper in Chapter 3 for a review). Although much is known about empirical correlates of IPV, most of the research amasses empirical findings in the absence of an integrative, coherent framework. Existing theoretical frameworks are narrow in focus and possess limited explanatory power.

Murphy (2013) proposed that Social-Information Processing Theory (SIPT) could be used to improve the conceptual understanding of relationship aggression. However, important theoretical advances in SIPT such as Crick and Dodge’s (1994) reformulated model have not yet been extended to IPV research. Murphy (2013) also highlighted the importance of core social-cognitive processes in IPV which have been poorly theorised to date. These interactive processes mediate between the individual’s psychological/biological disposition and social/interpersonal situations, together producing IPV. The social-cognitive processes highlighted by Murphy have the potential to unify a wide array of known IPV risk factors. Interestingly, many of the risk markers listed above are clearly social-cognitive in nature (e.g., attitudes) or contain substantial social-cognitive components (attachment: working models of...
self and other; personality: cognitive-affective processing units; Mikulincer & Shaver, 2007; Mischel & Shoda, 1995). Unfortunately, Murphy (2013) does not characterise the exact nature of these core-cognitive processes, meaning that further theoretical work is required to develop this literature.

### 2.3 Chapter 3: Intimate Partner Violence and Post-Relationship Stalking Perpetrators’ Cognition as Aggressive Relational Schemas

To address Research Aim 1, the paper in Chapter 3 explores what types of core-social cognitive processes may be implicated in IPV and PRS. The paper proposes an integrated theoretical model of IPV and PRS perpetrators’ cognition drawing from the existing literature on IPV and PRS psychological risk markers, SIPT of aggression (Crick & Dodge, 1994), and Relational Schema Theory (RST) – a theory on information-processing in close relationships (Baldwin, 1992). The paper was co-authored by the candidate, Dr Troy McEwan and Prof James R. P. Ogloff. The candidate’s contribution to this paper was equivalent to 80%. More specifically, the candidate conducted a wide-ranging literature review, developed the theoretical model, and the overall structure of the paper. Dr McEwan supported the refinement of the model, paper structure, and editing (15%). Prof Ogloff reviewed the final manuscript for clarity and readability (5%). The manuscript was submitted to the journal *Psychology of Violence* (see 9.1.1 for submission details).

The main aim of the paper was to develop an integrative account of IPV and PRS perpetrator cognition that could guide further research. From a social-information processing perspective, Murphy (2013) proposed that many psychological risk markers of IPV might share underlying maladaptive social-cognitive processes. Chapter 3 examines the possible nature of these processes by integrating SIPT with Relational Schema Theory, a social-cognitive theory on information processing in close relationships. Based on this integrated theory and the IPV and PRS risk marker literature, the paper will propose that *Aggressive Relational Schemas* (ARMS) are common social-cognitive structures underlying IPV and PRS perpetration. These schemas combine knowledge on relationships, aggression and violence, and gender and are hypothesised to produce aggressive behaviour in specific relationship contexts. The paper will then illustrate the heuristic value and empirical adequacy of the ARMs model using supplementary case studies. It will also explore the implications of the ARMs concept for future research and clinical practice with IPV and PRS perpetrators.

The paper in Chapter 3 represents the theoretical backbone of this thesis and identifies research questions that are investigated in subsequent papers. In the Integrated Discussion

Explanatory Overview Chapter
Chapter that concludes this thesis, the empirical research findings will be analysed in light of the ARMs model. This analysis culminates in proposing innovative future research ideas and identifying implications for clinical practice.

In addition to its central role in the thesis, the paper makes a substantial contribution to the existing literature. It integrates rather isolated and siloed literatures on risk markers for IPV and PRS such as attachment insecurity, personality dysfunction, antisocial and aggressive cognition, and gender-related attitudes, norms, and beliefs. Thus, the ARMs model can be used to synthesize and organize the large amount of empirical research that is accumulating in the IPV and PRS area (Hamby, 2011; Murphy, 2013). The ARMs model can also advance both research and intervention. For example, a number of novel research question and hypotheses follow from the ARMs model, in addition to informing clinical case formulation and intervention.

Due to shared risk markers between the behaviours, the ARMs model is applicable to both IPV and PRS perpetrator cognition, and therefore also speaks to Research Aim 1 regarding the interconnectedness of IPV and PRS. However, as briefly discussed above, IPV and PRS are not co-extensive constructs. Thus, the first empirical paper presented in this thesis will address the co-occurrence of IPV and stalking perpetration and victimisation.

2.4 Chapter 4: Assessing the Link between Intimate Partner Violence and Post-Relationship Stalking: A Gender-Inclusive Study

The link between IPV during a relationship and post-relationship relational pursuit and stalking after its end is poorly understood. The paper in Chapter 4 will address Research Aim 1: The interconnectedness of IPV and PRS perpetration and victimisation, respectively. The paper was co-authored by the candidate, Dr McEwan and Prof Ogloff. The candidate’s contributed 80% of the paper. The candidate conducted the literature review, statistical analyses, and drafted the whole paper. Dr McEwan and the candidate designed the study together and discussed previous drafts of the paper (Dr McEwan’s contribution: 15%). Prof Ogloff reviewed the final draft manuscript for clarity and readability (5%). The manuscript was submitted to Journal of Interpersonal Violence (see 9.1.2 for submission details).

Most past studies of the interconnectedness issue confound aggressive behaviours that occur during and after a romantic relationship. The few studies that adequately differentiate relationship and post-relationship behaviour focus either on the intersection of male IPV and PRS perpetration or female IPV and PRS victimisation. To address this pressing gap in the research literature, the first empirical study in this research project examined the occurrence of IPV and stalking perpetration and victimisation.
and co-occurrence of IPV and PRS. Rates of self-reported IPV, PRS, and the overlap between IPV and PRS were analysed in detail. The study sample comprised a subsample \( n = 422; \) females = 282) of a sample of adult, heterosexual men and women recruited from an Australian university \( n = 913; \) females = 627). All analyses were conducted separately for men and women (i.e., in a gender-sensitive manner).

Participants self-reported on IPV during their most conflicted relationship and a wide range of pursuit behaviour after the dissolution of a romantic relationship. Results indicated that men and women differed significantly in type and severity of IPV perpetration. Female participants reported higher rates of psychological IPV and physical IPV. Male respondents reported higher rates of sexual coercion. Women reported experiencing higher rates of IPV victimisation across subtypes (psychological, physical, injury, and sexual coercion). In contrast, equal numbers of males and females were classified as stalkers (using a definition of stalking based on duration of pursuit and number of unwanted intrusions). Similar to IPV, significantly more women than men reported experiencing PRS victimisation.

The most novel contribution of the paper in Chapter 4 concerns the gender-differentiated interconnectedness of IPV and PRS. Female IPV perpetrators did not differ in their stalking risk from non-perpetrators. In contrast, a meaningful link between IPV and stalking perpetration was detected for men. Male perpetrators reporting severe IPV perpetration were more likely to engage in stalking after the relationship compared to men who perpetrated less severe IPV. In contrast, there was a link between IPV and stalking victimisation that followed a similar trend in both male and female victims. The higher the severity of IPV victimisation experienced, the more likely victims were to also have experienced stalking.

This paper is highly relevant to the overarching aims of the thesis. Given that the link between IPV and PRS remains somewhat contested and poorly understood (Douglas & Dutton, 2001; McEwan et al., in press), exploration of the link between the phenomena should precede any comparative empirical analyses of cognition implicated in both behaviours. The subsequent thesis papers provide insight into shared and distinct cognitive correlates of IPV and stalking. The paper in Chapter 4 also makes a significant contribution to the clinical and research literature. The study provides gender-specific estimates of the frequency of co-occurrence of IPV and stalking perpetration and victimisation. This finding, upon replication, may have significant clinical implications for the assessment and management of relationship aggression perpetrators. This is the first study to comprehensively examine the link between IPV and PRS perpetration and victimisation in a gender-inclusive sample. Thus, this study adds substantially
This literature emphasises not only the frequent co-occurrence of different kinds of interpersonal violence, but also the conceptual intersection of violence types. There are numerous theoretical models explaining the aetiology of various forms of interpersonal violence. While most of these models focus on a single type of violence, their descriptions of aetiological processes and risk markers show considerable overlap. Certain situational factors contribute to the occurrence of many different types of interpersonal violence. For instance, environmental circumstances (e.g., crowding, accessibility of guns or other weapons, mistreatment), substance use, social integration, others’ behaviour (e.g., provocation, aggression, ostracism), and relationship context (e.g., stranger vs. peer vs. romantic partner vs. parent-child) may all facilitate the occurrence of interpersonal violence. In addition, person factors such as cognitive (e.g., aggressive schemas, antisocial goals), affective (e.g., anger), self-regulatory (e.g., ability to manage aggressive impulses), personality (e.g., Cluster B personality traits, callous/unemotional traits), and biological processes (e.g., physiological arousal) all enable interpersonal violence perpetration (Hamby & Grych, 2013). As discussed above, this thesis’ second overarching research aim concerns specific types of cognition as common explanatory factors for IPV and PRS, which may explain the partial overlap of the two behaviours.

2.5 Chapter 5: Cognitive and Relationship Characteristics Associated with Intimate Partner Violence and Post-Relationship Stalking Perpetration

Chapter 3 identifies maladaptive relationship cognition (Aggressive Relational Schemas; ARMs) as an important aetiological factor for both IPV and PRS. Drawing from the existing literature, the paper proposed that knowledge structures implicated in IPV and PRS combine cognition about romantic relationships, aggression and violence, and gender (Gilchrist, 2009a, 2009b; Langhinrichsen-Rohling, 2010; Senkans, McEwan, & Ogloff, Chapter 3, this thesis). The paper in Chapter 3 addresses the first research question that follows from the ARMs model by investigating whether IPV and stalking perpetrator cognition involves more i) problematic relationship cognition and ii) aggressive/antisocial cognition than is observed in non-perpetrators. The ARMs model also proposed a role for gender-related cognition, but this was not tested in this study due to practical considerations (i.e., survey administration time).

The paper in Chapter 5 was co-authored by the candidate, Dr McEwan and Prof Ogloff. The candidate’s contribution to this paper was equivalent to 80%, similar to the paper in
Chapter 4. The candidate conducted the literature review, statistical analyses, and drafted the whole paper. Dr McEwan and the candidate designed the study together and discussed previous drafts of the paper (Dr McEwan’s contribution: 15%). Prof Ogloff reviewed the final draft manuscript for content, clarity and readability (5%). The manuscript was submitted to the journal Aggressive Behavior (see Appendix 9.1.3 for submission details). Unlike other parts of this thesis, the manuscript is using American spelling due to journal requirements.

Chapter 5 is an empirical study that investigated cognitive correlates of IPV and PRS perpetration using the full study sample (n = 913; females = 627). Compared to cognition involved in other violent offending and sexual offending, the cognition of IPV offenders has not yet received sufficient research attention (Gilchrist, 2009a, 2009b; Ward, 2000; Weldon & Gilchrist, 2012). Similarly, few studies or theories have considered the role of cognition in stalking perpetration (Cooper, 2015; McKeon, McEwan, & Luebbers, 2014). This is a significant gap in the literature as aggressive and violence-supportive cognition is commonly viewed as a risk marker for perpetration of other types of aggressive, antisocial, and criminal behaviour and has been identified as a promising intervention target (Andrews & Bonta, 2010; Stewart, Flight, & Slavin-Stewart, 2013). Given these gaps in existing knowledge, the first aim of the study was to test if various kinds of antisocial attitudes (violence-supportive attitudes, antisocial entitlement and antisocial intent) predict IPV and PRS perpetration. The second aim of this study was to examine if gender-neutral permissive attitudes toward relationship violence predicted IPV perpetration severity and PRS perpetration. The third aim was to investigate if stalking-specific attitudes predict IPV and PRS perpetration. The fourth aim was to determine if relationship cognition variables (general interpersonal and relationship-specific entitlement) can explain IPV and PRS beyond the contribution of general and relationship-specific antisocial cognition. The fifth aim was to study if IPV victimisation severity and stalking victimisation predict perpetration, respectively; and, if cognitive variables explain IPV and PRS when victimisation and other variables (e.g., impression management) are taken into account.

Associations between predictor variables and relationship aggression varied between men and women. In men, general violence-supportive attitudes and relationship-specific entitlement predicted both IPV and stalking. In women, stalking-specific attitudes and relationship-specific entitlement predicted IPV, while stalking was solely predicted by IPV-supportive attitudes.

This study filled a number of gaps in the research literature. It was the first study to examine general antisocial attitudes in a gender-inclusive sample of relationship aggression.
perpetrators. The results provide preliminary support for the proposal that both relationship and aggression-supportive cognition contribute independently to IPV and PRS. In addition, specific ways of thinking about relationships (relationship entitlement) predicted IPV and PRS beyond the effects of IPV and PRS and general violence-supportive attitudes.

2.6 Chapter 6: Development and Validation of a Relational Rumination Questionnaire

How individuals think about relationships is thought to play an important role in aggression and violence in romantic relationship contexts. While the paper in Chapter 5 investigated cognitive content (i.e., attitudes, schemas) associated with relationship aggression, Chapters 6 and 7 examined the role of a cognitive process, rumination. Ruminative thinking has been linked to both general aggression (Denson, 2013) and pre- and post-relationship pursuit (Cupach & Spitzberg, 2004; Cupach, Spitzberg, Bolingbroke, & Tellitocci, 2011; Cupach, Spitzberg, & Carson, 2000; De Smet, Uzieblo, Loeys, Buyssse, & Onraedt, 2015; Spitzberg & Cupach, 2007; Spitzberg, Cupach, Hannawa, & Crowley, 2014). Some studies have also investigated the role of anger rumination in IPV (Eckhardt, Parrott, & Sprunger, 2015; Sotelo & Babcock, 2013; Watkins, DiLillo, & Maldonado, 2015). A significant weakness of previous studies is the lack of a validated scale for the measurement of rumination specifically about relationships, which may be particularly associated with different forms of relationship aggression. Thus, Chapter 6 describes the development of a new measure of relationship rumination that was then employed in the study described in the next paper (Chapter 7).

Chapter 6 is a published paper (Personality and Individual Differences; see 9.1.4 for submission/publication details) that was co-authored by the candidate, Dr McEwan, Dr Jason Skues, and Prof Ogloff. The candidate’s contribution to this paper was equivalent to 80%. The candidate conducted the literature review, developed the scale together with Dr McEwan, conducted descriptive, reliability, and validity analyses using SPSS (IBM Corp., 2013), worked together with Dr Skues on the exploratory and confirmatory factor analyses using MPlus (Muthén & Muthén, 2013), and drafted the paper. Dr McEwan and the candidate worked together on the development of the scale and earlier versions of the manuscript (Dr McEwan’s contribution: 10%). Dr Skues (contributing 5%) and the candidate conducted factor analyses together using MPlus (Muthén & Muthén, 2013). The candidate subsequently interpreted the results. Prof Ogloff reviewed the final draft manuscript for content, clarity, and readability (5%).

The paper describes the RelRQ’s development and validation across two studies using two samples of university students and members of the general population. The first study (n = 578) employed exploratory factor analyses (EFA) to reduce a larger item pool to an 18-item
measure. The EFA revealed three underlying, inter-correlated factors: i) romantic preoccupation rumination; ii) relationship uncertainty rumination; and iii) break-up rumination. This factor structure was replicated in Study 2 \((n = 525)\) and results were used to revise to a 16-item version. The studies also illustrate the RelRQ’s and subscales’ high internal consistency, good test-retest reliability (over four weeks), and convergent validity with a range of constructs (e.g., insecure attachment, anger rumination, and negative affect).

Past studies of rumination implicate ex-partner preoccupation in stalking (Cupach et al., 2011; De Smet et al., 2015; Spitzberg et al., 2014), but use unvalidated scales specifically developed for the respective study. Chapter 6 makes a significant contribution to the literature by providing a measure that can be used to more rigorously test hypotheses regarding the link between relationship rumination and IPV and PRS.

2.7 Chapter 7: The Role of Rumination in Intimate Partner Violence and Post-Relationship Stalking

Chapter 7 employed the RelRQ to test if rumination about relationships is implicated in IPV and PRS. The manuscript was co-authored by the candidate, Dr McEwan and Prof Ogloff. The candidate contributed the literature review, statistical analyses, and drafted the whole paper (80%). Dr McEwan and the candidate designed the study together and discussed previous drafts of the paper (Dr McEwan’s contribution: 15%). Prof Ogloff reviewed the final draft manuscript for content, clarity and readability (5%). The manuscript was submitted to the journal Social Psychological and Personality Science (see 9.1.5 for submission details).

The role of individual differences and psychological processes in IPV and PRS have received much research attention, although little research has focussed on the role of rumination, despite being theoretically linked PRS and, to a lesser degree, IPV. The study described in Chapter 7 investigates the second overarching research aim of the thesis and tests if relationship rumination is associated with IPV and PRS controlling for general rumination and other variables. We hypothesised that i) relationship uncertainty rumination would be predictive of IPV and ii) romantic preoccupation and breakup rumination would be predictive of PRS. The study used the same sample as Chapter 5. Relationship-specific rumination, more specifically the facet breakup rumination, enhanced the prediction of PRS, especially in men. In contrast, neither was meaningfully implicated in IPV.

Chapter 7 makes a significant contribution to the thesis and the wider research literature by linking PRS to a certain style of cognitive operations. Neither general rumination as
a content-independent, trans-diagnostic process (Ehring et al., 2011), nor relationship rumination meaningfully predicted IPV. In contrast, relationship-specific rumination—specifically rumination about a past breakup—was predictive of men’s and women’s post-relationship stalking overpowering the effect of general rumination. However, in men relationship rumination and PRS were moderately to strongly related, while in women the link was statistically significant, but small. A general tendency to engage in ruminative thinking was also univariately related to PRS but not IPV in both genders, but did not contribute independently once relationship rumination was taken into account. The study findings suggest that relationship rumination is a gender-universal cognitive process associated with stalking behaviour and that it is rumination about breakups rather than general rumination that is predictive of PRS. The study demonstrates that IPV and PRS, despite their interconnectedness, have some differing psychological correlates. This provides further empirical support to the literature that emphasises the importance of investigating PRS and IPV as related, but separate phenomena (McEwan et al., in press; Senkans et al., Chapter 3, this thesis; Senkans, McEwan, & Ogloff, Chapter 4, this thesis).

2.8 Synthesis and Conclusions

The empirical studies provide a range of novel information about the interconnectedness of IPV and PRS (Research Aim 1) and how perpetrators of IPV and PRS think about relationships and relationship aggression (Research Aim 2).

The study described in Chapter 4 provides valuable information on how many IPV perpetrators commit stalking after the abusive relationship has dissolved and how many PRS perpetrators report IPV perpetration. The studies described in Chapters 5 and 7 show that, as hypothesised, cognitive variables meaningfully added to the prediction of perpetration beyond the effects of impression management, victimisation, and other external variables. Of particular note is the finding across most studies that while both genders perpetrate IPV and PRS, many findings differed between genders—both on a prevalence- and correlate-level (Chapters 4, 5, 7). Taken together, these findings highlight the importance of gender-sensitive rather than gender-neutral or gendered IPV and PRS research. The other important finding is that while some cognitive correlates were shared between IPV and PRS, others differed substantially. Thus, the studies that form this thesis provide novel empirical evidence that IPV and PRS are related, but not identical phenomena. The thesis’ findings also provide some preliminary evidence for the ARMs model proposed in Chapter 3. That is, both relationship-specific cognition and general and aggressive/antisocial cognition are correlates of relationship
aggression. How gender cognition is implicated in IPV and PRS needs to be tested in future, gender-sensitive research.

This thesis has implications for the wider IPV, PRS, and interpersonal violence literatures that will be discussed in detail in the Integrated Discussion Chapter in this thesis (see Chapter 8). For example, the thesis findings may further challenge the notion that IPV and PRS are special types of violence that should be theorised separately from other forms of aggression. Furthermore, the thesis shows that disentangling the attachment construct into more distinct constructs (e.g., relationship entitlement, relationship rumination) can enhance the understanding of the potential role of insecure attachment in IPV and PRS. In addition, the strong role of victimisation in perpetration found in this thesis and the literature overall may contest assumptions commonly made in individual-level, social-cognitive theories of aggression and violence.

The ARMs model provides a useful framework for further study into relationship aggression perpetrators’ cognition. Avenues of future research will be outlined in the Integrated Discussion Chapter and respective paper discussion sections. Such future research can then ultimately inform interventions aimed at the reduction of these public health problems.
2.9 References


Cooper, A. (2015). *Stalking Attitudes Questionnaire: Development and analysis of a measure of attitudes and normative beliefs about stalking behavior*. (Bachelor of Arts in Psychology (Honours)), Swinburne University of Technology, Melbourne, Australia.


http://dx.doi.org/10.1007/s11199-009-9628-2
http://dx.doi.org/10.1080/13218719.2014.945637
Murphy, C. M. (2013). Social information processing and the perpetration of intimate partner violence: It is (and isn’t) what you think. Psychology of Violence, 3(3), 212-217. doi:
http://dx.doi.org/10.1037/a0033344
http://dx.doi.org/10.1007/s10896-013-9500-6
http://dx.doi.org/10.1016/j.avb.2006.05.001
http://dx.doi.org/10.1016/j.scoms.2014.03.007
http://dx.doi.org/10.1891/1946-6560.4.4.494

Explanatory Overview Chapter


3 Intimate Partner Violence and Post-relationship Stalking Perpetrators’ Cognition as Aggressive Relational Schemas

# 3.1 Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Intimate Partner Violence and Post-relationship Stalking Perpetrators’ Cognition as Aggressive Relational Schemas</td>
<td>33</td>
</tr>
<tr>
<td>3.1 Table of Contents</td>
<td>34</td>
</tr>
<tr>
<td>3.2 Abstract</td>
<td>35</td>
</tr>
<tr>
<td>3.3 Introduction</td>
<td>36</td>
</tr>
<tr>
<td>3.3.1 Existing theoretical explanations for relationship aggression-related cognition</td>
<td>37</td>
</tr>
<tr>
<td>3.4 Cognitive Structure: Social Information Processing and Relational Schema Theories</td>
<td>38</td>
</tr>
<tr>
<td>3.4.1 A brief integration of Social Information Processing and Relational Schema Theory</td>
<td>40</td>
</tr>
<tr>
<td>3.4.2 Relational schemas</td>
<td>41</td>
</tr>
<tr>
<td>3.4.3 Relational scripts</td>
<td>43</td>
</tr>
<tr>
<td>3.5 Cognitive Content: Aggressive Relational Schemas</td>
<td>44</td>
</tr>
<tr>
<td>3.5.1 Relational schemas and scripts underlying personality traits and attachment styles</td>
<td>45</td>
</tr>
<tr>
<td>3.5.1.1 Global relational schemas: Personality</td>
<td>45</td>
</tr>
<tr>
<td>3.5.1.2 Domain-specific relational schemas: Attachment</td>
<td>47</td>
</tr>
<tr>
<td>3.5.1.3 Top-down and bottom-up effects of global and domain-specific schemas</td>
<td>48</td>
</tr>
<tr>
<td>3.5.2 Aggression-supportive schemas and scripts</td>
<td>49</td>
</tr>
<tr>
<td>3.5.2.1 Global aggressive schemas: Cognition supportive of general aggression</td>
<td>50</td>
</tr>
<tr>
<td>3.5.2.2 Domain-specific aggressive schemas: Cognition supportive of relationship aggression</td>
<td>50</td>
</tr>
<tr>
<td>3.5.3 Gender Schemas and Scripts</td>
<td>51</td>
</tr>
<tr>
<td>3.6 Summary of ARMs Model</td>
<td>53</td>
</tr>
<tr>
<td>3.7 Interaction between ARMs and Interpersonal Situations in the Processing of Social Information</td>
<td>54</td>
</tr>
<tr>
<td>3.8 Discussion</td>
<td>56</td>
</tr>
<tr>
<td>3.8.1 Future directions</td>
<td>56</td>
</tr>
<tr>
<td>3.8.2 Limitations</td>
<td>58</td>
</tr>
<tr>
<td>3.8.3 Clinical implications</td>
<td>59</td>
</tr>
<tr>
<td>3.9 Conclusion</td>
<td>60</td>
</tr>
<tr>
<td>3.10 References</td>
<td>60</td>
</tr>
</tbody>
</table>
3.2 Abstract

Social-cognitive theories of aggression have been used to explain how cognition is involved in violent and sexual offending. However, such theories have yet to consider aggression that occurs in romantic contexts: Intimate partner violence (IPV) and post-relationship stalking (PRS). Social Information Processing Theory (SIPT) can shed light on common social-cognitive structures and processes that underlie psychological risk markers of IPV. Characterising the structure of this social cognition, the current paper integrates SIPT with Relational Schema Theory, a social-cognitive theory on information processing in close relationships. The integrated theory proposes that social cognition relevant to IPV and PRS is structurally organised into Aggressive Relational ScheMas (ARMs). Characterising the content of ARMs, the paper draws from the literature on psychological risk factors for both behaviours. This paper proposes that ARMs combine problematic cognition about relationships, aggression and violence, and gender. Finally, the paper will briefly hypothesise how ARMs may be implicated in aggressogenic information processing. Implications for research and clinical practice of viewing cognition associated with perpetrating relationship aggression as ARMs are discussed.

Keywords: Intimate partner violence, domestic violence, stalking, social information processing, relational schema
3.3 Introduction

Intimate Partner Violence (IPV) and post-relationship stalking (PRS) are public health concerns that affect millions of people worldwide (McEwan & Pathé, 2014; C. Mitchell & Vanya, 2009). In this paper, IPV is defined as psychologically, physically, and sexually aggressive behaviour against a current intimate partner (Strauss, Hamby, Boney-McCoy, & Sugarman, 1996). Post-relationship (PRS) may be defined as a pattern of targeted, repeated, and unwanted intrusive acts that can be reasonably expected to cause apprehension, distress, or fear in the victim, which occurs after a romantic relationship has dissolved (Douglas & Dutton, 2001; McEwan, Shea, Nazarewicz, & Senkans, in press; Mullen, Pathé, & Purcell, 2009). This paper uses the term relationship aggression when both IPV and PRS are discussed.

Given the high prevalence of relationship aggression, and its deleterious effects on victims, perpetrators, and the community more broadly, it is vital to elucidate the individual, relationship, community and wider social factors that are implicated in its occurrence (Dahlberg, Krug, Mercy, Zwi, & Lozano, 2002). In this paper, we focus on the individual psychological differences that must exist to explain inter-individual variations in the occurrence of relationship aggression. This paper addresses psychological antecedents of IPV and PRS, focussing on the specific individual characteristic of perpetrators’ cognition.

The role of cognitive structures and processes in general aggression has been discussed extensively (e.g., C. A. Anderson & Bushman, 2002; Crick & Dodge, 1994). While theories of aggression and violence have been adapted and incorporated into specific etiological theories of sexual (e.g., Langton & Marshall, 2001; Ward, 2000) and violent offending (e.g., Andrews & Bonta, 2010; Gannon, Ward, Beech, & Fisher, 2009a), they have been infrequently applied or tailored to relationship aggression (for notable exceptions see Fox, Nobles, & Akers, 2011; Gilchrist, 2009b; Holtzworth-Munroe, 2000; Murphy & Eckhardt, 2005; Yanowitz, 2006). As a result, the theoretical, empirical, and clinical innovations derived from social-cognitive theories in other areas of interpersonal aggression have not yet seen similar development in the area of relationship aggression (Gannon et al., 2009a; Gilchrist, 2009b). This paper will address this gap in the literature, offering an integrative account of the types of cognition that may be involved in aggression towards partners or ex-partners. These hypotheses, contingent on empirical support, may then inform primary (e.g., school programs), secondary (e.g., counselling for high conflict couples and high-conflict divorcees), and tertiary interventions (e.g., clinical assessment and management of perpetrators of relationship aggression, see 3.8.3).

After briefly summarising existing theoretical explanations for relationship aggression,
this paper will integrate Social Information Processing Theory (SIPT; Crick & Dodge, 1994) with Relational Schema Theory (Baldwin, 1992). This integration will be used to specify the *structure* in which cognitions associated with relationship aggression may be organised. Then, we will use the literatures on well-established psychological risk markers of relationship aggression such as insecure attachment, problematic personality traits, general and offence-specific antisocial and aggressive cognition, and gender-related cognition to hypothesise as to the *content* of these cognitions. Subsequently, we will briefly illustrate how these cognitions may influence individuals’ interpretation of social situations and how this may be associated with relationship aggression. Finally, we will discuss implications of the model proposed in this paper for relationship aggression research and briefly address clinical implications of the proposed model.

### 3.3.1 Existing theoretical explanations for relationship aggression-related cognition.

A number of theories have explicitly hypothesised about the types of knowledge structures involved in IPV and PRS. Many feminist approaches suggest that all types of male-to-female relationship aggression are caused and maintained by patriarchal belief systems regarding men’s power and entitlement over women, which reflect broader social constructs (Pence & Paymar, 1993). In addition, the wider interpersonal violence literature has identified cognitive structures (e.g., schemas) and processes (e.g., hostile attribution bias) that are implicated in different types of interpersonal violence (Hamby & Grych, 2013). Other work has applied existing theoretical models of offender cognition to the explanation of relationship aggression. For example, theories from the sex offender cognition literature (e.g., Ward, 2000) have been used to hypothesise about cognitions involved in IPV, resulting in a comprehensive list of offence-supportive schemas proposed to relate to IPV (e.g., Gilchrist, 2009b; Pornari, Dixon, & Humphreys, 2013; Weldon & Gilchrist, 2012). Likewise the General Aggression Model’s (GAM; C. A. Anderson & Bushman, 2002) focus on aggressive cognition has been employed to help explain IPV (DeWall, Anderson, & Bushman, 2011).

In a relatively separate literature, various authors have used attachment models to explain both IPV and PRS (e.g., Bartholomew & Allison, 2006; Dutton, 2007; Meloy, 2003). However, their applications have been rather general, meaning that cognition is only implicitly considered as one aspect of insecure attachment dynamics. Other models propose that relationship aggression stems from personality pathology, at times referencing insecure attachment as part of personality disturbance (e.g., Dutton & White, 2012). Cognitions relevant to relationship aggression can be inferred from such theories given the substantial cognitive component of personality processes (Beck, 2015; Mischel & Shoda, 1995). For instance,
borderline personality disorder is in part defined by the presence of cognitive factors such as a diffuse, relationship-contingent self-schema and interpersonal distrust; both of which may be implicated in relationship aggression (Douglas & Dutton, 2001).

While each of these theories can be applied to cognition involved in relationship aggression, they invariably address just one aspect of IPV and PRS cognition. Feminist theory focusses on cognition about gender (e.g., Pence & Paymar, 1993), the GAM and the implicit theory model focusses on aggressive (C. A. Anderson & Bushman, 2002) and/or antisocial cognition (e.g., Gilchrist, 2009b; Pornari et al., 2013; Weldon & Gilchrist, 2012), and personality (Beck, 2015) and attachment models (Bartholomew & Allison, 2006) focus on interpersonal or romantic relationship cognition. In general then, while separately providing many avenues for further research, the available theoretical frameworks all have limited explanatory scope in their conceptualisations of the broad range of cognition associated with relationship aggression.

While the explanatory scope of existing theories is limited, the theories’ consideration of cognition possess many complementary elements that may allow for practically useful unification. In her review of IPV offender social cognition, Gilchrist (2009a) concluded that general antisocial cognition (e.g., attitudes that condone violence generally), offence-specific cognition (e.g., attitudes supportive of relationship aggression specifically), cognitions regarding femininity and masculinity, and relationship-specific cognition (e.g., exaggerated relationship expectations) each play a role in relationship aggression. In a similar vein, Langhinrichsen-Rohling (2010) pointed to the influence of cultural norms regarding gender, violence, and relationships on what an individual brings to a romantic relationship (including their attachment style and personality characteristics) and their resultant propensity to engage in relationship aggression. Thus, in their consideration of cognition associated with relationship aggression, the theories above complement rather than contradict each other.

Thus, the current paper attempts to knit cognitive aspects of all theories described above into an integrative theory of relationship aggression cognition (Kalmar & Sternberg, 1988). This will result in an integrative and parsimonious model that brings together rather insulated research literatures on cognition associated with relationship aggression in a coherent framework.

3.4 Cognitive Structure: Social Information Processing and Relational Schema Theories

Social Information Processing Theory may be particularly relevant to IPV and PRS due to its integrative potential and explanatory value (Murphy, 2013). Murphy (2013) proposed that
maladaptive social-cognitive processes underlie psychological risk markers of IPV that are theorised in the models outlined above. These social-cognitive processes in turn are influenced by an individual’s social schemas and scripts. These schemas and scripts are thought to exert influence over initial perception and interpretations of social cues, goals, response selection, behaviour, and evaluation of behaviour (Crick & Dodge, 1994; Murphy, 2013). Despite the assumed importance of social schemas and scripts, neither Crick and Dodge (1994) nor Murphy (2013) elaborate on the exact nature of these knowledge structures. Conversely, Baldwin (1992) does discuss specific relationship-oriented knowledge structures in his Relational Schema Theory (RST). Drawing from a number of similar theories, RST proposes that information processing in close relationships is guided by closely intertwined self- and other-schemas and expectations of self-other interactions (relational scripts; Baldwin, 1992). This theory has received substantial empirical support in the general interpersonal cognition literature (e.g., Acitelli, Wickham, Brunson, & Steers, 2015).

In focusing on individuals’ social-cognitive processes as a factor in relationship aggression we do not mean to imply that other individual differences or socio-ecological risk markers such as relationship, community, and social issues do not play an important role in IPV and PRS (Dahlberg et al., 2002). However, our focus here is specifically on how an individual perceives and interacts with their social world and how this may relate to their subsequent behaviour towards partners and ex-partners. In this paper we take a gender inclusive approach to relationship aggression (Hamel, 2007), reflecting the array of research confirming that both men and women perpetrate partner violence (Archer, 2002; Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012). Similarly, we take the view, which is also established in the literature, that relationship aggression involves gendered elements (i.e., it is not gender-neutral) and that the effects are different for male and female victims (i.e., IPV is not gender-equal; e.g., Caldwell, Swan, & Woodbrown, 2012; Hamel, 2007; Straus, 2011; Straus & Gozjolko, 2014). We specifically aim to address how the way that individuals think about gender in relationships may influence information processing in relational interactions. This stance is important as the theoretical framework aims to be applicable to all individuals who are affected by relationship aggression, including male victims, female perpetrators, victim-perpetrators, and persons with same-sex attraction and diverse gender identities.

The following sections will briefly review SIPT on aggression and synthesise RST and related models. Both theories are very rich and have been elaborated well over three decades, meaning that providing a full summary of each is beyond the scope of this paper. Rather, after
brief introductions to each theory we build on the large bodies of existing work to propose that relational schema theory can be used to effectively tailor SIPT to apply to relationship aggression. Based on this integration, we propose that cognition supportive of relationship aggression is organised in *Aggressive Relational Schemas* (ARMs). We then draw on extant literature on cognition and individual differences involved in relationship aggression to hypothesise about the content of ARMs. Then, we will briefly discuss how such schemas may influence social information processing. Finally, the paper will explore potential implications of conceptualising cognitions that support relationship aggression as ARMs.

### 3.4.1 A brief integration of Social Information Processing and Relational Schema Theory

Information processing theory describes the individual as an information processing system that uses internal and external information to produce behaviour (Ingram & Kendall, 1986). In clinical contexts, information processing theory focusses upon the cognitive mechanisms that underlie both adaptive and maladaptive cognition, affect, and behaviour (Huesmann, 1998; Ingram & Kendall, 1986). Social information-processing theory has been applied to a number of clinical issues, but perhaps one of the most well-known is its application to aggression (Huesmann, 1998). The most comprehensive SIPT for aggression and violence was developed by Crick and Dodge (1994). According to this model (see Figure 3.1), the processing of social information involves six stages, all of which stand in an interactive feedback loop with a “data base” of social knowledge. The data base is thought to contain all long-term memory of social relationships that is organised in social schemas and scripts (Crick & Dodge, 1994).

The data base comprises “latent mental structures” such as schemas (Crick & Dodge, 1994, p. 78; Ingram & Kendall, 1986). These cognitive structures influence how individuals view themselves, others, their interpersonal world, and what types of self-and-other interactions they expect. Individuals use schemas to define and understand their own and others’ behaviour, inform behavioural expectations and determine what types of behaviours to enact (Baldwin, 1992; Fiske & Taylor, 2013; Gannon, Ward, Beech, & Fisher, 2009b). Consequently, schemas are thought to be involved in all stages of SIP (Crick & Dodge, 1994; Ingram & Kendall, 1986).

Specifying their structure (section 3.4), content (section 3.5), and information-processing effects (section 3.7) is therefore of central importance to a theory describing IPV and PRS perpetrators’ cognition.
3.4.2 **Relational schemas.** Social-cognitive theories often focus on either self- or other-schemas. However, cognition about self-other relationships rather than isolated entities of self and other seem the correct level of analysis for many relational phenomena (Baldwin, 1992), including relationship aggression. This is because of the intimate, highly interdependent contexts in which these behaviours occur. These contexts are markedly different from peer contexts in which aggressive behaviour in children may take place (Crick & Dodge, 1994), or aggressive behaviour towards strangers or acquaintances (C. A. Anderson & Bushman, 2002). A social-cognitive theory that takes the intimacy and interdependency of close relationships into account is RST.

Relational schemas are thought to play a role in the processing of information in close relationship interactions, including romantic relationships (Baldwin, 1992; Bowlby, 1969-80; Horowitz, 1991; Safran, 1990a). Relational schemas consist of tightly related and
interdependent sets of self- and other-schemas (Baldwin, 1992; Horowitz, 1991; Safran, 1990a; Young, Klosko, & Weishaar, 2003). The concept of self- and other-schema in relational schema theories is roughly equivalent to Bowlby’s (1969-80) internal working model concept in attachment theory (Bartholomew & Horowitz, 1991; Hamby & Grych, 2013). The self-schema is thought to determine how the self is experienced in a given interpersonal situation, while the other-schema applies to the other person (e.g., a romantic partner) in the interaction (Baldwin, 1992). Self- and other schemas are closely linked in an associative network of knowledge relevant to specific relationship contexts and are based on previous experiences in those contexts (Andersen, Chen, & Miranda, 2002; Baldwin, 1992; Horowitz, 1991; Safran, 1990a). Relational schemas are also thought to hold information on self- and other characteristics, traits, roles, and values (see Figure 3.2, Horowitz, 1991). Relational schemas are hypothesised to be affect-laden, given that most interpersonal situations can be self-relevant and affect-arousing (Baldwin, 1992; Collins, Guichard, Ford, & Feeney, 2004). For this reason relational schemas can be considered “hot” knowledge structures (Berscheid & Ammazzalorso, 2001; Greenberg & Safran, 1984). It is assumed that relational schemas contain emotions experienced in the interpersonal situations that were subsequently generalised to a schema (e.g., Horowitz, 1991; Young et al., 2003).

It has also been proposed that relational schemas can have different levels of relationship specificity (see for a review Brunson, Acitelli, & Sharp, 2015). Global relational schemas are thought to apply to all sorts of interpersonal interactions, whereas domain-specific schemas are used in the processing of information in specific types of relationships such as romantic relationships. This proposed differentiation between global and specific cognition is mirrored in the literature discussing differentiation between general aggression-supportive cognition and aggression-supportive cognition that is specific to intimate relationship contexts (see 3.5.2). The former may be associated with global schemas that condone the use of violence across a wide variety of interpersonal contexts (C. A. Anderson & Bushman, 2002; Hamby & Grych, 2013; Huesmann, 1998). For example, such schemas may take the form of a dangerous world schema that encompasses the expectation that others are out to harm the self (Gilchrist, 2009b; Ward, 2000). In contrast, violence in romantic relationship contexts may be associated with domain-specific relational schemas such as the idea that relationship partners have negative intentions (Holtzworth-Munroe, 2000; Pornari et al., 2013). Even more specifically, relationship-specific relational schemas may only condone violence toward only one specific romantic partner or ex-partner, who has previously committed a real or perceived transgression.
toward the self (Fitness, 2001).

### 3.4.3 Relational scripts

In addition to self- and other-schemas, relational schemas are thought to contain behavioural scripts specific to relationship events and their expected sequence (Abelson, 1981; Baldwin, 1992; Fiske & Taylor, 2013). Like other forms of behavioural scripts, relational scripts are thought to contain procedural elements such as stereotyped patterns of specific relationship expectations between self and other (see Figure 3.2; Baldwin, 1992; Bretherton, 1991; Horowitz, 1991; Safran, 1990a; Bretherton, 1991; Horowitz, 1991; Safran, 1990a). Baldwin (1992) hypothesised that these procedural aspects of a relational script take the form of ‘if...then’ contingencies between self- and other behaviour (see also Andersen et al., 2002; Horowitz, 1991; Safran, 1990a), an idea that has gained some empirical support in the general literature on close relationships (e.g., Acitelli et al., 2015). A synthesis of key proposed features of relational schemas is provided in Table 3.1.

![Figure 3.2 Systematic elements of role-relationship model (relational schemas). Slightly modified.](image)

The relationship between latent mental structures, such as schemas and scripts, and behaviour is assumed to be indirect (Crick & Dodge, 1994; Ingram & Kendall, 1986). This is because other cognitive processes, “on-line processing actions” (Crick & Dodge, 1994, p. 78), mediate the relationship between latent mental structures, situational cues, and behaviour generation processes. These online processing actions are the product of using latent mental structures to make sense of incoming internal and environmental information on a moment-to-moment basis (Ingram & Kendall, 1986). For instance, an attribution of intent (Figure 3.1, Step 2) is an on-line processing action that is based on a relevant relational schema in the data base. This attribution is more obviously implicated in the behaviour generation process than the

---

*Chapter 3: IPV and PRS Perpetrators’ Aggressive Relational Schemas*
underlying schema that produced the attribution (Ingram & Kendall, 1986).

To summarise, Relational Schemas consist of three interdependent parts: i) self-schemas, ii) other schemas, and iii) situation-specific self-other behaviour contingencies (scripts). Given the schemas are structures abstracted from repeated interpersonal interactions, their activation can trigger affective states (i.e., they are “hot” knowledge structures). Relational schemas are thought to follow the same “laws” as other schemas, e.g., they can be primed. Relational schemas are thought to have different levels of applicability with global schemas applying to all interpersonal interactions, domain-specific schemas applying to one type of relationships (e.g., romantic relationships), and relationship-specific schemas applying to particular relationships (e.g., mother). Relational schema function as a cognitive roadmap to maintain interpersonal relatedness and predict and explain others’ and own behaviour. By influencing these cognitive operations (e.g., predicting, explaining), schemas are thought to indirectly influence behaviour (see Table 3.1 for an overview).

Table 3.1. Summary of Key Attributes of Relational Schemas.

<table>
<thead>
<tr>
<th>Theorised Nature of Relational Schemas and their Effects on Social Information Processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Relational Schemas are latent mental structures consisting of:</td>
</tr>
<tr>
<td>a. Interdependent self- and other-schemas; and,</td>
</tr>
<tr>
<td>b. Relational scripts of if ... then self-other interactions.</td>
</tr>
<tr>
<td>2. Relational Schemas are “hot” cognitive-affective structures.</td>
</tr>
<tr>
<td>3. Relational Schemas follow the same “laws” as other schemas.</td>
</tr>
<tr>
<td>4. Relational Schemas are used to predict others’ behaviour and guide own behaviour.</td>
</tr>
<tr>
<td>5. Relational Schemas can be global, domain-specific, or relationship-specific.</td>
</tr>
<tr>
<td>6. Their function is to maintain relatedness to close others.</td>
</tr>
<tr>
<td>7. Relational Schemas influence cognitive online processing actions, which in turn</td>
</tr>
<tr>
<td>influence behaviour.</td>
</tr>
</tbody>
</table>

3.5 Cognitive Content: Aggressive Relational Schemas

The preceding section describes how interpersonal knowledge is hypothesised to be organised into schemas (structure). However, schemas are not only defined by their structure (the how), but also by their content (the what; Ingram & Kendall, 1986). The following sections will specify the content of relevant relational schemas using the available literature on psychological risk markers of IPV and PRS. Aggressive relational schemas (ARMs) are proposed to combine the following content: i) maladaptive relationship schemas (schemas underlying attachment style and personality dispositions); ii) aggression- and violence-supportive schemas.
that condone the use of aggression in interpersonal contexts either generally, in romantic relationships, or toward a specific partner; and, iii) gender-related schemas. Each of these proposed components will be explored briefly in the following sections.

### 3.5.1 Relational schemas and scripts underlying personality traits and attachment styles

As illustrated above, relational schemas have different levels of applicability. **Global** schemas encompass general self- and other schemas and scripts that are applicable to all types of interpersonal relationships (Brunson et al., 2015; Collins et al., 2004; e.g., Sibley, 2007). These global relational schemas are akin to personality schemas in social-cognitive personality theories. These theories view a person’s cognitive-affective processing dispositions (e.g., schemas) as the basic units of both healthy (Mischel & Shoda, 1995) and disordered personality (Beck, 2015; Eaton, South, & Krueger, 2009; Young et al., 2003). Schemas associated with personality disorder are evoked by a variety of interpersonal contexts and distort information processing, which is associated with maladaptive behaviour across different situations (Beck, 2015). In contrast, **domain-specific** schemas are relational schemas that are applicable to only a specific type of relationships, for example romantic relationships (Brunson et al., 2015; Collins et al., 2004; Sibley, 2007). Such domain-specific schemas are thought to underlie peoples’ responses to measures of romantic attachment styles (Brunson et al., 2015; Dykas & Cassidy, 2011) with positive schemas producing secure romantic attachment styles and negative schemas producing insecure romantic attachment (Mikulincer & Shaver, 2007).

Both disordered personality and insecure attachment are well-established risk markers for IPV and PRS (e.g., Bartholomew & Allison, 2006; Capaldi, Knoble, Shortt, & Kim, 2012; Douglas & Dutton, 2001; Dutton, 2007; Gormley, 2005; MacKenzie, Mullen, Ogloff, McEwan, & James, 2008; McEwan, Mullen, & Purcell, 2007; Meloy, 1992; Ogilvie, Newman, Todd, & Peck, 2014). Thus, we can draw from social-cognitive theories of personality and romantic attachment to hypothesise as to the content of ARMs.

#### 3.5.1.1 Global relational schemas: Personality

While healthy and flexible relational schemas may produce adaptive behaviour, negative and rigid relational schemas may be implicated in maladaptive behaviour (Baldwin, 1992; Beck, 2015; Horowitz, 1991; Young et al., 2003). The social-information processing mechanisms by which these schemas produce maladaptive behaviours are discussed at length in Beck (2015), Young et al. (2003), and Eaton et al. (2009). This paper focusses on the insights that can be derived from this literature regarding the content of ARMs.

Personality disorder features that encompass the need to control others (e.g.
narcissistic and antisocial) and/or a relationship-contingent and diffuse self-concept (e.g., borderline) seem of the greatest relevance to IPV, PRS, and violence in general. Not surprisingly, entitlement-related schemas have been found in IPV perpetrators (Corral & Calvete, 2014; Pornari et al., 2013; Weldon & Gilchrist, 2012) and many PRS perpetrators present with narcissistic traits (Meloy, 1992; Mullen et al., 2009). Antisocial traits have been linked to both IPV (e.g., Holtzworth-Munroe & Stuart, 1994) and PRS perpetration (e.g., Mullen et al., 2009). Borderline personality features have also been associated with both IPV (e.g., Dutton, 2007) and PRS (e.g., De Smet, Uzieblo, Loeyes, Buyse, & Onraedt, 2015; Douglas & Dutton, 2001; Sansone & Sansone, 2010). Extrapolating from this literature, Table 3.2 illustrates what types of schematic content may be present in IPV and PRS perpetrators’ ARMs.

There may be considerable overlap between narcissistic, antisocial, and borderline relational schemas. For example, all three types of schemas may encompass the expectation that others will try to manipulate and abuse the self (Arntz, 2015; Behary & Davis, 2015; Corral & Calvete, 2014), contributing to pre-emptive aggressive and violent behaviour towards others. In a similar vein, all three pathological traits may have underlying defectiveness self-schemas. However, while the person with borderline traits surrenders to this schema, i.e. gives into their defective self-schemas, a person with narcissistic and antisocial traits may react to this schema with over-compensation (Young et al., 2003).

### Table 3.2 Content of Aggressive Relational Schemas derived from the Personality Literature

<table>
<thead>
<tr>
<th>Personality</th>
<th>Schema Examples</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narcissistic/</td>
<td>Self: exaggerated beliefs about the importance and</td>
<td>Behary &amp; Davis (2015)</td>
</tr>
<tr>
<td>Entitled</td>
<td>superiority of the self</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other: disregard for others</td>
<td>Zeigler-Hill, Green,</td>
</tr>
<tr>
<td></td>
<td>Script: lack of social reciprocity, retaliatory thoughts when scripted expectations are violated</td>
<td>Arnau, Sisemore, &amp; Myers (2011)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Young et al. (2003)</td>
</tr>
<tr>
<td></td>
<td>Other: distrust towards others; seeking control over others; exploiting others</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Script: aggression and violence is acceptable</td>
<td>Young et al. (2003)</td>
</tr>
<tr>
<td>Borderline</td>
<td>Self: instable, vulnerable, and depreciating</td>
<td>Arntz (2015)</td>
</tr>
<tr>
<td></td>
<td>Other: dangerous, malevolent, unreliable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Script: expects abandonment, interpersonal vigilance and distrust, aggressive behaviour may be required for self-defence or to avoid abandonment</td>
<td>Young et al. (2003)</td>
</tr>
</tbody>
</table>
3.5.1.2 Domain-specific relational schemas: Attachment. Beyond personality schemas, domain-specific schemas underlying romantic attachment styles can inform the content of potentially aggressogenic relational schemas. Figure 3.3 describes combinations of positive vs. negative self- and partner schemas resulting in particular attachment styles. The existing literature largely support these theoretical patterns of internal working models and that individuals with different attachment styles differ in the content of their underlying relational schemas (Baldwin, 1992; Bartholomew & Horowitz, 1991; Bowlby, 1969-80; Collins et al., 2004; Mikulincer & Shaver, 2007). However, some disagreement remains regarding how to best conceptualise attachment working models and associated behavioural systems (Mikulincer & Shaver, 2007).

Both avoidant and anxious types of insecure attachment have been implicated in IPV, however in different ways. Anxiously (i.e., preoccupied or fearful-avoidant) attached individuals are thought to be hypersensitive to relational threat as they perceive ambiguous partner behaviour as threatening. They may then react to situations of attachment-related threats with anger and protest behaviour that could be construed as psychologically aggressive and may even engage in physical violence (Bartholomew & Allison, 2006). Anxiously attached individuals
who are not able to regulate this negative affect using effective self-regulation and positive communication strategies, may then engage in aggressive or violent behaviour to forcefully increase proximity to their partner (Bartholomew & Allison, 2006; Gormley, 2005).

In contrast, relational schemas underlying dismissing-avoidant attachment are thought to be associated with a negative reaction to real or perceived bids for intimacy by a partner. Avoidant individuals may use aggression and violence to control their partners to achieve and maintain self-sufficiency (Gormley, 2005). In addition, due to negative other-schemas underlying avoidant attachment orientations, attachment avoidance has been linked to hostility and lack of forgiveness (Bartholomew & Allison, 2006). Faced with relational threat, individuals with attachment avoidance are thought to emotionally and physically withdraw, which may seem at odds with relationship aggression (Bartholomew & Allison, 2006). However, attachment avoidant individuals’ tendencies for defensive self-enhancement (Mikulincer & Shaver, 2007) may be associated with aggressive and violent behaviour.

Davis, Swan, and Gambone (2012) suggested that disordered attachment could underpin PRS in the same way that it has been hypothesised to produce IPV. While they do not explicitly discuss cognition, they identify that anxiously attached individuals, due to the high self-relevance of the relationship, may overestimate the importance of the relationship and their chances of re-conciliation. Theoretically, schemas underlying dismissing-avoidant should be less likely to produce stalking behaviour (Davis et al., 2012; Douglas & Dutton, 2001). However, seeing that attachment is not the only psychological risk marker of stalking, there may still be dismissing-avoidant individuals who pursue an ex-partner, as has been demonstrated in clinical studies (MacKenzie et al., 2008).

3.5.1.3 Top-down and bottom-up effects of global and domain-specific schemas.

Global and domain-specific relational schemas are thought to be hierarchically organised, with domain-specific relational schemas possessing higher specificity than global models. Both top-down and bottom-up effects have been suggested. For instance, global models may form before more specific models are developed. However, significant relationship experiences may not only change the domain-specific schema, but also result in a revision of the global model (Brunson et al., 2015).

Relatedly, global personality models and domain-specific romantic schemas have common content. For instance, dismissing-avoidant attachment (domain-specific) schemas are similar to antisocial and narcissistic personality (global) schemas, while fearful-avoidant and preoccupied attachment schemas are similar to borderline and narcissistic personality schemas.
The link between attachment and personality may be partly due to interdependent relational schemas, one on the global and the other on the domain-specific level (e.g., Collins et al., 2004; Sibley, 2007).

Adopting this theoretical orientation to personality and attachment leads to a range of testable hypotheses about the cognitive content of perpetrators’ schemas who engage in violence in different contexts. Such hypotheses cannot be generated using a trait-based model of personality and/or attachment as it does not allow for sufficiently fine-grained operationalisation of individual differences. Based on the above discussion, it can be hypothesised that when people possess global problematic relational schemas (underlying personality), they may experience interpersonal difficulties across a wide range of contexts, to the extent that they may meet diagnostic criteria for a personality disorder. Following from the previous discussion of domain-specific relational schemas (underlying romantic attachment styles), it can also be hypothesised that people could have interpersonal difficulties in specific types of relationships (e.g., romantic relationships) rather than across all interpersonal interactions. In addition, both the personality and the attachment literature infrequently discuss the role of interpersonal scripts in problem behaviour (Kammrath, 2011; Waters & Waters, 2006). This important aspect of relational schemas (Baldwin, 1992) that can be investigated using the model proposed in this paper.

3.5.2 Aggression-supportive schemas and scripts. Insecure attachment and problematic personality in themselves may not be sufficient to fully explain IPV and PRS. We propose that the negative self- and/or other-schemas that underlie insecure attachment and problematic personality traits are associated with relationship aggression and violence only in those individuals whose relational scripts are supportive of aggressive and violent expressions and actions (see Figure 3.2).

In making this hypothesis, we draw on research from the general violence literature suggesting that the link between Cluster B personality traits (e.g., narcissistic, antisocial, and borderline (American Psychiatric Association, 2013) and violence may be explained by the presence of aggression-supportive cognitions in those with Cluster B personality (Gilbert & Daffern, 2011).

We suggest that the presence of aggressive schemas and scripts is the key antecedent for relationship aggression, albeit accompanied and perhaps activated by relevant problematic relationship and/or gender cognition. We hypothesise that these knowledge structures may
include attitudes, beliefs, norms, and scripts that are generally supportive of aggression across interpersonal contexts (Gilbert, Daffern, Talevski, & Ogloff, 2013). In addition, those who engage in relational aggression may have aggressive schemas and scripts that are specific to intimate relationship contexts (domain-specific) or specific to a particular relationship (relationship-specific). Aggression-supportive cognition and maladaptive relationship cognition together contribute to the ARMs that we suggest underpin both IPV and PRS.

### 3.5.2.1 Global aggressive schemas: Cognition supportive of general aggression.

Surprisingly little empirical research has investigated the role of general aggressive cognition, such as attitudinal acceptance of general violence, in relationship aggression (Pornari et al., 2013), despite the fact that general criminal offending and perpetrating IPV are moderately strongly related (Moffitt, Krueger, Caspi, & Fagan, 2000). However, some researchers suggest that, for some IPV perpetrators, the belief that violence is normal applies globally to all relationships, contributing to general violence (Gilchrist, 2009b; Pornari et al., 2013). For example, such individuals may believe that violence is an acceptable conflict resolution strategy, helps to attain personal goals such as controlling others and gaining respect in all types of interpersonal relationships (Pornari et al., 2013). It can be hypothesised that individuals who possess such global violence supportive attitudes are more likely to be violent to both partners and other individuals, whereas those who only aggress in relationship contexts would lack global aggression-supportive cognition but endorse domain-specific aggressive scripts. However, it is also possible that global aggressive cognition proves to be more explanatory of both general and relational aggression than offence-specific cognitions in individuals who engage in both behaviours (Hamby & Grych, 2013).

### 3.5.2.2 Domain-specific aggressive schemas: Cognition supportive of relationship aggression.

The existing research literature suggests that perpetrators of relationship aggression possess attitudes that condone aggression and violence in romantic contexts (e.g., Capaldi et al., 2012; Stith, Smith, Penn, Ward, & Tritt, 2004; Sugarman & Frankel, 1996). More specifically, studies indicate that people who commit IPV are more likely to believe that violence in relationships is normal (e.g., Neighbors et al., 2010; Weldon & Gilchrist, 2012), generally acceptable, or specifically acceptable in the context of perceived or actual relational transgressions (e.g., Eckhardt, Samper, Suhr, & Holtzworth-Munroe, 2012; Valdez, Lilly, & Sandberg, 2012; Witte & Mulla, 2012). This attitudinal research allows for certain inferences to be made about IPV perpetrators’ cognition. They seem to possess schemas and scripts that condone violence toward relationship partners generally or in specific relationship contexts.
COGNITION IN INTIMATE PARTNER VIOLENCE AND STALKING

Chapter 3: IPV and PRS Perpetrators’ Aggressive Relational Schemas

(Gilchrist, 2009a, 2009b). Thus, we hypothesise that IPV offenders’ domain-specific ARMs contain knowledge structures that are permissive of relationship aggression and violence. Their ARMs may contain scripts that allow for aggression under certain if ...then contingencies.

Unfortunately, no studies to date have investigated attitudes supportive of stalking in individuals who report perpetration of stalking or relational pursuit, representing a significant gap in the research literature. Stalking schemas are thought to encompass cognitions regarding stalking, general courtship beliefs, and other pro-stalking attitudes (McKeon, McEwan, & Luebbers, 2014). Recent research indicates that these cognitions may include beliefs and attitudes that minimise the seriousness of stalking, romanticise stalking, and blame victims for stalkers’ behaviour (McKeon et al., 2014). While there is a need for further research in this area, there is some preliminary evidence that those who more strongly endorse attitudes supportive of stalking are less likely to recognise persistent pursuit as stalking or view it as justifiable (Cooper, 2015; Fox et al., 2011; Kamphuis et al., 2005; McKeon et al., 2014).

3.5.3 Gender Schemas and Scripts. Aggressive Relational Schemas associated with IPV and PRS are primarily thought to comprise problematic cognition about self, others, and romantic relationships and the acceptability of aggression and violence in various social relationships. However, an important part of cognition about romantic relationships are ideas about gender roles and related expectations that each person brings to a partnership. This does not only apply to heterosexual individuals, but also to same-sex attracted and gender-diverse individuals who must negotiate a world in which their sexuality may cause questioning of their masculinity and femininity (K. L. Anderson, 2005). Binary gender differentiation organises social cognition across all interpersonal contexts and relationships, including expectations regarding men and women’s characteristics and roles in romantic relationships (Bem, 1981; Bussey & Bandura, 1999; Byers, 1996). Hence, in a romantic relationship, partners’ gender-related cognition fundamentally impacts upon how people see themselves and their partners, and what expectations they hold regarding relationship interactions (Hamel, 2007). In this paper we propose that some ARMs are gendered, while others do not necessarily contain gendered elements.

The research literature and anecdotal evidence strongly suggest that how male perpetrators think about their own gender plays a significant role in relationship aggression. For instance, men who have very specific ideas how a “real man” must behave in certain situations (e.g., suspicion of female infidelity) may be predisposed to relationship aggression (Capaldi et al., 2012; Gilchrist, 2009a, 2009b; Stith et al., 2004; Sugarman & Frankel, 1996).
In addition, PRS has been construed by some feminist theorists as a variant of IPV or an extension of male coercive control and sexual proprietariness beyond the end of a relationship (Davis et al., 2012). Thus, it can be assumed that feminist theory would propose that cognition about masculinity is also implicated in PRS. Relational (and sexual) success as well as dominance over women indeed are central traditional male gender norms in Western society (e.g., Levant, Hall, & Rankin, 2013). This could contribute to PRS as some men may experience distress if they fail to conform to such ideas (Pleck, 1995). Similarly, females’ more socio-centric self-schemas emphasising relational success (Gillespie & Eisler, 1992) may be related to relational pursuit after an unwanted separation. In addition, female violence, especially when targeting an adult male, is generally perceived as relatively inconsequential (e.g., Langhinrichsen-Rohling, 2010; Thompson, Dennison, & Stewart, 2012). This cultural norm may help some women to excuse their violence toward a male partner or ex-partner. However, behaving violently is also at odds with female gender norms such as the expectation to be nurturing in romantic relationships (Gillespie & Eisler, 1992). In a similar vein, the chivalry norm is prohibitive of male-to-female violence (Archer, 2002). Hence, both traditionally male- and female-gendered self-schemas may both excuse and prevent perpetration of relationship aggression.

In addition to influencing self-schemas, gender also strongly impacts how people see relationship partners. Recent qualitative research by Weldon and Gilchrist (2012) identified offence-supportive schemas in male IPV offenders that were explicitly gendered. Ideas such as women are dangerous and women are provoking (p. 766), which assert that women intentionally manipulate men to resort to violence, were clearly identified in their sample of male IPV offenders. Supporting these qualitative findings, a recent systematic review by Capaldi et al. (2012) concluded that men’s hostility toward women is related to IPV with a low to moderate effect size (see also Stith et al., 2004). However, it is also noteworthy that not all types of gendered other-schemas are conducive to aggression or violence toward females. Some, such as the chivalry norm, and other forms of benevolent sexism, may in fact inhibit IPV and PRS toward a female partner or ex-partner (Archer, 2002; Thompson et al., 2012). Moreover, some gender norms may equally affect men and women in aggression-supportive ways. Pornari et al. (2013) defined the IPV offence-supportive schema the opposite sex is dangerous (p. 496), which entails viewing the opposite gender as untrustworthy, manipulative, controlling, demanding, and immature, regardless of the gender of perceiver. No empirical studies to date have investigated the role of gendered cognitions such as hostile stereotyping of men in female IPV and PRS offenders.
Scripts that specify how men and women are expected to interact with each other may also be implicated in relationship aggression. Prototypical heteronormative cultural scripts of courtship may be associated with male PRS as they construe females as pursuit objects, males as pursuers, and include the expectation of male persistence (Langhinrichsen-Rohling, 2012). In addition, some individuals may hold sexual scripts that are adversarial in nature. These scripts may include beliefs that women make token refusals of male attention, i.e., they say no when they actually mean yes (Byers, 1996). However, cultural norms may also be conducive to female pursuit of men. Female aggression is generally perceived as less severe than male aggression, potentially allowing female relational aggressors to minimise or justify their behaviour (Langhinrichsen-Rohling, 2012). Traditional sexual scripts may also influence social information processing in relationships because they frequently assume that men and women are fundamentally different and want profoundly different things in heterosexual situations (Byers, 1996).

3.6 Summary of ARMs Model

To summarise, drawing from the existing literatures on psychological risk markers of IPV and PRS, we propose that ARMs integrate cognitive content on relationships (section 3.1), aggressive and antisocial themes (section 3.2), and – for some ARMs – gender (section 3.3). We propose that maladaptive relationship cognition is a somewhat necessary component of ARMs. While in and of itself problematic relationship cognition is not sufficient to produce relationship aggression, it is an integral part of ARMs. Aggressive and antisocial cognition is the only hypothesised component of ARMs that alone is sufficient for relational aggression. Maladaptive relational schemas are only associated with relationship aggression if they contain aggressive and/or antisocial options in the associated relational scripts. Finally, gender cognition is neither sufficient, nor necessary for relationship aggression to occur. Many (perhaps most) aggressogenic relational schemas may contain gender-related schemas, while others do not (see Supplementary Material in section 3.11). The feminist literature strongly suggests that certain gender-related cognitions (i.e., male self-schemas and female other-schemas) can be conducive of both IPV and PRS. However, many instances of relational aggression may involve more idiosyncratic schemas about a specific partner as a person rather than a member of their gender category or generally aggressive schemas. Finally, IPV and PRS occurs in same-sex dyads or diverse gender-identity dyads in which gendered cognition may not be immediately implicated or differently implicated than in heterosexual dyads.

From the conditional statements outlined above, it follows that general aggressive and
antisocial cognition (Figure 3.4, non-overlapping part of bottom circle), schemas combining gender and aggressive cognition (i.e. general sexist schemas independent from romantic relationships), ARMs combining aggressive and relationship cognition, and ARMs combining all three themes are implicated in IPV and PRS. In the given ARM, the two or three different components may often be so intertwined, they would be difficult to disentangle (see Supplementary Material in section 3.11).

Figure 3.4 Proposed elements of Aggressive Relational Schemas.

To summarise, we propose that individuals who perpetrate relationship aggression hold ARMs that predispose them to aggressive behaviour in and outside of relational contexts. As described above (section 3.4), these schemas interact with situational features in the production of aggressive behaviours throughout all six stages of information processing. In the next section, we will briefly expand on how these proposed cognitive structures may predispose individuals to aggressive or violent behaviour in romantic relationship contexts.

### 3.7 Interaction between ARMs and Interpersonal Situations in the Processing of Social Information

Aggressive relational schemas are thought to interfere with the functional encoding (Step 1, Figure 3.1) and interpretation (Step 2, Figure 3.1) of interpersonal situations. That is, interpersonal situations are more likely to be construed as relational transgressions that allow individuals to justify aggressive or violent responses or continue to pursue a relationship after
its end. If the ARMs are highly dysfunctional, they may not only dominate the interpretation of
the situation but even override many of the objective features of the situation (Eaton et al.,
2009). Healthy individuals may consider a wide variety of factors (i.e., self-related, other-
related, situational factors), while individuals with problematic schemas may rely on
predominantly self-related factors (e.g., factors stemming from their maladaptive schemas).
Paradoxically, these individuals may regularly re-create similar situations seeing that they create
situational inputs (e.g., rejection) themselves (Eaton et al., 2009).

The majority of this paper has focussed on the structure (section 3.4) and content
(section 3.5) of ARMs and their potential influences on encoding and interpretation of social
situations (Step 1 and 2 in Figure 3.1). However, an individual’s data base is thought to influence
all stages of SIP (Crick & Dodge, 1994). Due to space constraints we will only briefly hypothesise
how ARMs may influence later stages of SIP. Step 3 involves goal clarification and the regulation
of arousal. The social situations that are examined in social information-processing models are
highly likely to arouse negative emotions (Lemerise & Arsenio, 2000), especially in close
relationships (e.g., relational conflict, relational goal frustration). A challenge to schematic
relational expectations may be arousal-producing beyond the arousal created by simple
activation of the relevant schemas (Berscheid & Ammazzalorso, 2001). As illustrated above,
ARMs can distort the interpretation of relationship events. Seeing that ARMs are also proposed
to have affective content that has been abstracted from painful interpersonal experiences
(Baldwin, 1992; Bartholomew & Horowitz, 1991; Beck, 2015; Horowitz, 1991; Young et al.,
2003), they may produce arousal that is more difficult to regulate than arousal produced by
healthy relational schemas. This may further predispose individuals to relationship aggression
and violence (Finkel, 2007).

Individuals who hold entrenched ARMs and have frequently mentally or behaviourally
rehearsed associated aggressive scripts (Huesmann, 1998) will readily have access to aggressive
behavioural response options (Step 4, Figure 3.1) and experience high self-efficacy for
aggressive behaviour and have positive outcome expectancies for abusive behavioural options
(C. A. Anderson & Bushman, 2002; Bandura, 1977; Crick & Dodge, 1994). In contrast,
alternative, more functional behaviours such as openly discussing negative emotions may be
less available (Step 5, Figure 3.1). Thus, challenging interpersonal situations in interaction with
an individual’s aggressogenic social cognition is highly likely to produce aggressive behaviour
(Step 6, Figure 3.1).
3.8 Discussion

The application of social-cognitive theories to offender cognition has facilitated many empirical and theoretical advances in the violent and sexual offender cognition literature (Gannon et al., 2009a; Ward, 2000). Social-cognitive theories have not yet been systematically tailored to intimate partner violence (IPV) and post-relationship stalking (PRS) cognition (Gilchrist, 2009a, 2009b). To address this gap in the theoretical literature, this paper integrated SIPT and RST to hypothesise how social cognition contributing to IPV and PRS is structurally organised. We have proposed that cognition that contributes to IPV and PRS may be organised in Aggressive Relational SchemMas (ARMs) involving specific self-schemas, other-schemas, and relational scripts. We then inferred possible content of ARMs from a range of rather isolated bodies of literature. Aggressive relational schemas are suggested to combine knowledge structures related to relationships, aggression, and gender. Finally, it was briefly discussed how ARMs may contribute to aggressive behaviour in romantic relationship contexts.

The ARMs model meaningfully links relatively isolated research areas and combines aspects of existing theories relevant to IPV and PRS perpetrators’ cognition. Common ARMs could underlie the links between borderline personality traits, anxious attachment, IPV and stalking (Dutton, 2007; Dutton & White, 2012), for example. Similarly, ARMs may be a useful construct to explain the connection between antisocial personality traits, attitudes condoning violence, and relationship aggression (Gilbert & Daffern, 2011).

3.8.1 Future directions. The model generated a number of testable research questions and hypotheses which are summarised in Table 3.3. The first two research questions concern an empirical test of the proposed content, architecture, and information-processing effects of ARMs. Research questions 3 – 6 refer to ARMs’ explanatory power regarding the presence of relationship aggression in general, IPV vs. PRS specifically, and generalist vs. specialist relationship aggression. The ARMs model is proposed to be applicable to both IPV and PRS; behaviours which share a range of risk markers but which are not entirely co-extensive (Douglas & Dutton, 2001; McEwan et al., in press; Senkans, McEwan, & Ogloff, Chapter 4, this thesis). While perpetrators of these two types of behaviour share common individual differences, the underlying relational schemas may differ. Based on the ARMs model, it would also be expected that those who engage in general aggression possess global ARMs and domain-specific ARMs while specialist relationship-aggressors possess domain-specific or even relationship-specific ARMs.
Table 3.3 Research Questions that can be derived from the ARMs model.

<table>
<thead>
<tr>
<th>Research Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do IPV and PRS offenders’ ARMs contain the proposed elements?</td>
</tr>
<tr>
<td>2. If ARMs exist, do they influence stages 1-6 of information processing? If yes, how?</td>
</tr>
<tr>
<td>3. Do ARMs have predictive and/or explanatory value for relationship aggression?</td>
</tr>
<tr>
<td>4. Do ARMs distinguish between different types of relational aggression perpetrators (IPV vs. PRS)?</td>
</tr>
<tr>
<td>5. Do ARMs distinguish between specialist and generalist perpetrators of relationship aggression?</td>
</tr>
<tr>
<td>6. If ARMs are amenable to intervention and their modification would result in reduction of reoffending risk?</td>
</tr>
<tr>
<td>7. What type of affect or emotions may be represented in ARMs relevant to relationship aggression?</td>
</tr>
<tr>
<td>8. Are Cluster B personality traits and insecure attachment associated with negative relational schemas, and are some of these schemas aggressogenic?</td>
</tr>
<tr>
<td>9. Do relationship aggression perpetrators share general ARMs or do idiosyncratic ARMs exist?</td>
</tr>
</tbody>
</table>

Finally, ARMs amenability to intervention would need to be tested. Research questions 7 – 9 concern larger topics that could be addressed if the ARMs construct proves a promising explanatory framework for cognition involved in relationship aggression. We explore some of these potential research questions and how they could be empirically tested in more detail below.

Future studies need to empirically test both the proposed cognitive architecture and content of ARMs. This paper asserts that ARMs combine relationship and aggressive cognition, and that some ARMs are gendered; all proposals that require empirical scrutiny. Qualitative methodologies may be used to identify problematic self- and other schemas, and relationship scripts that are associated with IPV and PRS. For example, individuals who have committed or are currently engaging in IPV and/or PRS may be interviewed about how they think about relationships in general, and their partners, and themselves in relational contexts. Although this research may involve considerable inference, findings could shed light on self- and other schemas, and scripted if ... then patterns that are associated with relationship aggression. Quantitative research based on self-report may be more challenging. While many measures exist to assess relational schemas as stable individual differences using the attachment paradigm, there is no standardised way to measure the content of relational schemas from a social-cognitive perspective (Brunson et al., 2015). Although there are some quantitative (e.g., Interpersonal Schema Questionnaire; Hill & Safran, 1994) and qualitative approaches (e.g., semi-structured interviews) that appear encouraging, many of them also have significant limitations. For instance, they do not separately consider the components of relational schemas or have lengthy administration times (Brunson et al., 2015). Methodologies for effectively
measuring relational schemas requires further research, in both normal populations and populations of those who engage in relationship aggression or criminal behaviour.

Another promising avenue of research may be to compare relational schemas of generalist and specialist perpetrators with relational schemas of non-abusive individuals. Based on the ARMs model, it would be expected that the generalist group may have more global and entrenched aggressive relational schemas, whereas the specialist group has more domain-specific or even relationship-specific schemas. Those in the non-abusive group may have less accessible ARMs, or no ARMs at all, or it is possible that they have more effective self-regulatory ability or self-awareness and so can counteract the biasing influence of ARMs on information processing.

Besides generating testable hypotheses, the ARMs model can also inform more contextual approaches to IPV. These models are more interested in the kinds of cognitive factors (e.g., expected outcomes of violent behaviour) that are more proximally related to IPV in real life situations rather than distal individual difference variables (e.g., Bell & Naugle, 2008).

3.8.2 Limitations. While they offer fertile ground for guiding future research into IPV and PRS, social-cognitive models such as those used in this paper also have some limitations that need to be addressed. For example, Card (2011) highlights the need to expand person-oriented, social-cognitive theories of interpersonal aggression and violence to theories that fully take into account two-person relationships (Capaldi, Shortt, & Kim, 2005; Hamby & Grych, 2013; Langhinrichsen-Rohling, 2010). This is obviously particularly important for the application of these models to relationship aggression that inevitably involves more than one person. In addition, social information processing models have been criticised for their inadequate consideration of the role of emotion in information processing (Ingram & Kendall, 1986). As discussed above, ARMs are conceptualised as cognitive-affective structures. However, the role of affect has been only briefly discussed in this paper. Social information processing theories and emotion process theories are not incompatible (Lemerise & Arsenio, 2000) and this will clearly be an area for future elaboration both of ARMs model and SIPT more generally.

Cognitive factors may have a causal relationship to abusive behaviour, they may be a correlate of behaviour, or the behaviour may cause the cognition in form of excuse-making or post-hoc justifications (e.g., Maruna & Mann, 2006). Thus, to label cognitive factors such as ARMs a causal risk factor is neither necessary nor warranted. Social information-processing and relational schema theories are largely derived from correlational and cross-sectional research, with few exceptions (Baldwin, 1992; Crick & Dodge, 1994). More complex research designs are
needed that allow for causal inferences. It remains to be determined if changes in the SIP system of perpetrators can be achieved and if these changes would account for therapeutic change (Murphy, 2013).

3.8.3 Clinical implications. Most men’s behaviour change intervention programs try to achieve cognitive change using psychoeducation about patriarchy (Babcock, Green, & Robie, 2004; Pence & Paymar, 1993). Many studies to date indicate that such gender-based IPV interventions are as likely to work as not to work, i.e., have minimal or no effects (Babcock et al., 2004; Eckhardt et al., 2013). However, there are increasingly loud calls for approaches to the treatment of IPV perpetrators to reflect best-practice for working with violent offenders (Day, Chung, O’Leary, & Carson, 2009; Eckhardt et al., 2013; Murphy & Eckhardt, 2005). Recently, Stewart, Flight, and Slavin-Stewart (2013) emphasised that relationship aggression interventions need to “grow up” (p. 494) and adhere to the risk-need-responsivity (RNR) principles of effective offender rehabilitation (Andrews & Bonta, 2010). As such, interventions should, among other treatment targets, address attitudes supportive of relationship aggression beyond those that exist with the gender paradigm.

The perspective presented in this paper, once rigorously tested empirically, may assist implementing this in evidence-based interventions for IPV and PRS perpetrators. For example, if ARMs were shown to be a relevant cognitive construct, the model could add to existing cognitive-behavioural techniques in the treatment of relationship aggression. The ARMs model can help guide a clinician’s understanding of cognitions that contribute to a perpetrators’ interpretation of relationship events. Using cognitive-behavioural or experiential methods (Beck, 2015; Safran, 1990b; Young et al., 2003), the clinician could work with the perpetrator to challenge and cognitively restructure the interpretation of the objective qualities of the relational situation.

The couples counselling literature can also be consulted. For example, Whisman and Uebelacker (2007) recommend interview and in-session assessment of relational schemas. More specifically, clinicians can begin by asking questions about the nature of the problematic behaviour and pursue a line of questioning to prompt verbalisation of cognitions. For example, they state that words such as “should, must, have to” (p. 209, original emphases) indicate that a relationship schema is being articulated. During sessions, strong negative affective reactions may indicate that a particularly problematic schema is currently accessible to the client. This relational schema can then be addressed in the session using cognitive-behavioural methods and added to the case formulation. The clinical usefulness of the ARMs model is further
exemplified using case studies that can be found in the Supplementary Material (section 3.11).

3.9 Conclusion

How social cognition is involved in intimate partner violence and post-relationship stalking has been previously discussed in the literature, however has not yet received sufficient systematic theoretical and empirical consideration. This paper attempted to advance the consideration of social cognition in IPV, PRS, and violence more generally. To this end, it presented an integrative account of the structure, content, and effects of IPV and PRS perpetrators’ aggressive social cognition. This perspective is a novel way of describing perpetrator cognition that has the potential to produce theoretical and empirical advances in this area.

3.10 References


Chapter 3: IPV and PRS Perpetrators’ Aggressive Relational Schemas


Cooper, A. (2015). *Stalking Attitudes Questionnaire: Development and analysis of a measure of attitudes and normative beliefs about stalking behavior*. (Bachelor of Arts in Psychology, Honours), Swinburne University of Technology, Melbourne, Australia.


3.11 Supplementary Material

3.11.1 Case study 1: Rahul. Rahul was a 25-year-old male convicted of stalking his former partner, Tanya (26). Rahul was born in India and migrated to Australia at the age of 19 to study at university. He obtained a sponsored graduate position at the end of his degree and became a permanent resident in Australia through that employment. He is the only child from a reasonably wealthy family and recalled wanting for nothing as a child. He described his parents’ relationship as “very good” and commented that his father was always able to provide for him and his mother as he was a successful businessman. In the six months following the end of their relationship, Rahul undertook a range of activities intended to scare and humiliate Tanya. Rahul was attending court-mandated psychological treatment in which it became evident that he held a number of aggressive relational schemas.

Rahul described Tanya as his “first love”, stating that while he had been on dates with other women in the past, Tanya was the first woman with whom he thought that he would spend the rest of his life. By Rahul’s account, they had met at the party and quickly became friends. Tanya had been dating someone else at the time they met but after approximately three months Rahul told her he had feelings for her and she broke up with her boyfriend and started dating Rahul. Rahul described Tanya as “very beautiful”, smart, and successful and stated that many of his friends were jealous of their relationship. He emphasised that he himself was the “perfect catch” for any woman due to his good looks, excellent job, and financial success. Some grandiosity and entitlement schemas became evident in his self-descriptions (Young, Klosko, & Weishaar, 2003), however not to a clinically significant degree.

Rahul stated that he had “done all the right things” to ensure that Tanya would remain his girlfriend. He described himself as “the perfect boyfriend” attending to all of Tanya’s needs, constantly giving her surprise gifts, and trying to avoid arguments by anticipating what Tanya wanted. In his descriptions of their relationship it became evident that his views toward women included many benevolently sexist ideas. He believed that if he emotionally and financially provided for Tanya that he could expect that she would be a compliant, nurturing girlfriend (i.e., his dependent). These ideas are culturally scripted (Glick & Fiske, 1997), however, were also strongly reinforced by Rahul’s parents’ relationship. While benevolent sexism is associated with positive feelings and prosocial actions in the perceiver, it involves stereotyping that can often be damaging for the recipient (Glick & Fiske, 1996).
In Rahul’s case, the damaging effects of these gendered relational schemas manifested when Tanya violated his scripted relational assumptions. After a romantic trip together 11 months into the relationship, Rahul was shocked and surprised when Tanya broke up with him, telling him that she did not believe that they were compatible in the long term. Rahul was devastated by Tanya’s decision and initially believed that he could change her mind. He called and texted her a number of times to ask her to explain and reconsider her decision. Tanya initially responded with apologies for ending the relationship and causing him hurt. At the beginning of his reconciliation attempts, Rahul followed culturally normative breakup scripts which involved reasonable re-conciliation attempts on behalf of the partner who does not want to end the relationship (Battaglia, Richard, Datteri, & Lord, 1998). However, Tanya again did not react as Rahul expected (i.e., she refused to get back together). After approximately two weeks she ceased responding to his contacts and then told Rahul via text message to stop contacting her as she had made her decision and would not change her mind. Rahul became extremely angry and felt tricked and humiliated as he had spent a substantial amount of money on the trip for the two of them the weekend before she ended the relationship. These circumstances resulted in him construing the breakup as a betrayal. Betrayal is a perceived severe interruption of relational expectations that implies devaluation of the betrayed party or the relationship itself on behalf of the betrayer (Fitness, 2001). The next de-escalating step in a betrayal script is that the offending party expresses remorse and apologises for this implied devaluation (Fitness, 2001). Rahul expected Tanya to get back together with him or at least provide an explanation of her behaviour. However, as detailed above, Tanya did not conform to his relational expectations.

Rahul ceased calling and texting Tanya as she had asked but became consumed by the idea that she had a new boyfriend and began monitoring her Facebook page. When he started to see some “evidence” for his suspicions (e.g., Tanya’s social circle seemed to have changed considerably), his sense of betrayal intensified. One step of interpersonal betrayal scripts is revenge when the offending party is not remorseful (Fitness, 2001). Thus, he began making silent telephone calls to Tanya’s home and mobile phones using a disposable telephone. Rahul stated that he initially “wanted to know where she was, if she was with someone else” and so would call at odd hours to check if she was awake or at home.

After Tanya began ignoring these calls, Rahul left a number of veiled threats on Tanya’s voicemail, modifying his voice electronically so she would not recognise him. In these threats Rahul called Tanya a “slut” and a “whore” and stated that her parents were better off dead than
facing the shame of having Tanya as a daughter. Rahul stated that the purpose of these telephone calls was to scare Tanya, as was the purpose of convincing some of his friends to throw a brick through her window at night. He was fixed on the idea that Tanya owed him financially and emotionally for her actions in leaving him after he had spent a significant amount of money on her during their relationship. He then set up pornographic websites involving manipulated fake pictures of Tanya. These intended to harm her job prospects so she would suffer financially as he felt he had.

Rahul had never engaged in violent behaviour outside of the stalking episode. Thus, it can be assumed that the cognitions involved in his stalking episode were either domain- (i.e., romantic relationships) or even relationship-specific (i.e., they only applied to his relationship with Tanya). He felt wronged and seemed particularly affronted by the fact that Tanya had broken up with him after their weekend away, repeatedly stating that “you just can’t do that!” He applied his relational scripts (i.e., his ideas around adequate reciprocity) very rigidly to his conflict with Tanya, which in turn, in combination with some antisocial attitudes, contributed to his stalking behaviour. Perpetrators of relational aggression believe that under certain circumstances violence is justifiable. He referred to the idea that Tanya owed him as justification for his efforts to frighten her. Thus, he endorsed ideas that his behaviour was justifiable and that Tanya was to blame for his behaviour (see section 3.2). In addition, Rahul strongly denied being violent or aggressive towards Tanya, describing his actions as “just threats, I would never really hurt her.” He stated that he had advised his friends to go to Tanya’s house on a night that he knew she would not be home as he did not want to cause any physical harm if they threw the brick through the window as planned. Evidently, he was not only justifying and making excuses for his behaviour, but also minimising the seriousness of his actions (Mitchell, Tafrate, & Freeman, 2015).

3.11.2 Case study 2: Anna. Anna and Jeff have been married for six months. They attended couples counselling due to recent issues in their relationship. They met about a year ago and decided to get married quite early on in their relationship. Anna has had a number of committed, longer-term romantic relationships, many of which were somewhat volatile (e.g., frequently breaking up and getting back together, bidirectional verbal abuse and bidirectional physical abuse). Anna’s previous relationship ended because her partner began an affair with another woman. Her ex-partner partly blamed her cold and detached, but psychological abusive behaviour (name calling, silent treatment, and going through his mobile phone) for his disengagement from the relationship and subsequent affair. Jeff had relatively little relationship
experience; he has had mostly casual dating relationships before he met Anna. Anna has sought
counselling regarding some recent relationship problems. Anna has been bothered by Jeff going
out "with the boys" every Friday night for the past few weeks. He would usually come home
between 11 pm and 1 am at night, which has resulted in many fights, some of them involving
Anna lashing out by throwing items at Jeff and at one occasion slapping him in the face and
trying to kick him.

In the counselling sessions it became evident that Anna holds a number of problematic
relational schemas. She spontaneously reports profound interpersonal mistrust towards people
in general, which also became evident in the therapeutic relationship (e.g., she told the male
counsellor: “I know that you will take his side in this thing.”). She stated that she always tries to
“get others before they get me” to avoid others taking advantage of her (i.e., she seems to
over-compensate for a mistrust/abuse schema; Young et al., 2003). Additionally, Anna seems to
endorse an abandonment/instability schema (Young et al., 2003). She believes that if she
doesn’t control and keep others in check, they will not continue to care for her emotionally and
abandon her. In romantic relationships, her mistrust/abuse and abandonment/rejection
schemas had many gendered components (i.e., men are dangerous; Pornari, Dixon, &
Humphreys, 2013). More specifically, she believed that men are not able to resist sexual
advances by women, even if they are trying to do so. She described that she suspects all of her
ex-partners cheated on her, because they “couldn’t control themselves”. She also believed that
all romantic relationships will eventually fail due to men’s limitations. She stated that men are
always on the lookout for a more attractive (i.e., skinnier, prettier) women. Thus, if she allowed
Jeff to stay out all night, he would eventually meet “someone better” than her. As evident in
these maladaptive schemas, Anna attachment style to Jeff was fearful-avoidant. That is, she had
negative other schemas (Jeff is untrustworthy and rejecting) and negative self-schemas (she
herself is unworthy of love) (Bartholomew & Horowitz, 1991).

Scripts within Anna’s relational schemas were fused with aggressogenic content. Some
components of her mistrust/abuse schemas (i.e., men are dangerous; Pornari et al., 2013) may
predispose her to aggression. She stated that she would “become physical” as she was
expecting men to become emotionally or physically abusive during relational conflicts: “This is
how it was between my parents when I was growing up”. In addition, she may be hypersensitive
to cues of abandonment (based on her abandonment/rejection and fearful-avoidant
attachment schemas). This has resulted in controlling behaviour (e.g., checking phone
messages) in the past. While Anna is waiting for Jeff to return home, she also engaged in
rumination about what it means for their relationship that Jeff wants to go out with his friends all the time rather than with her. She also imagined Jeff being in a bar or a club meeting attractive women. Her dysfunctional schemas and rumination may contribute to Anna viewing Jeff’s nights out as relational transgressions, which in her view justify aggressive responses. Anna believed that if her partner hurts, rejects, or abandons her, then it was acceptable to “teach them a lesson”. Depending on the situation, this may involve silent treatment, controlling behaviour, or verbal and physical abusiveness.

3.11.3 References


## 4 Assessing the Link between Intimate Partner Violence and Post-Relationship Stalking: A Gender-Inclusive Study

### 4.1 Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessing the Link between Intimate Partner Violence and Post-Relationship Stalking: A Gender-Inclusive Study</td>
<td>73</td>
</tr>
<tr>
<td>4.1 Table of Contents</td>
<td>73</td>
</tr>
<tr>
<td>4.2 Abstract</td>
<td>74</td>
</tr>
<tr>
<td>4.3 Introduction</td>
<td>75</td>
</tr>
<tr>
<td>4.3.1 The link between IPV and stalking.</td>
<td>76</td>
</tr>
<tr>
<td>4.4 Method</td>
<td>80</td>
</tr>
<tr>
<td>4.4.1 Sample</td>
<td>80</td>
</tr>
<tr>
<td>4.4.2 Measures</td>
<td>81</td>
</tr>
<tr>
<td>4.4.2.1 Conflict Tactics Scale Revised (CTS-2)</td>
<td>81</td>
</tr>
<tr>
<td>4.4.2.2 Stalking Tactics Scale (STS)</td>
<td>81</td>
</tr>
<tr>
<td>4.4.2.3 Socially-desirable responding</td>
<td>82</td>
</tr>
<tr>
<td>4.4.3 Intimate partner violence variable definitions</td>
<td>82</td>
</tr>
<tr>
<td>4.4.4 Post-relationship stalking variable definitions</td>
<td>84</td>
</tr>
<tr>
<td>4.4.5 Statistical analyses</td>
<td>84</td>
</tr>
<tr>
<td>4.4.6 Procedure</td>
<td>84</td>
</tr>
<tr>
<td>4.5 Results</td>
<td>85</td>
</tr>
<tr>
<td>4.5.1 Socially desirable responding</td>
<td>85</td>
</tr>
<tr>
<td>4.5.2 Prevalence of IPV and PRS perpetration in the sample</td>
<td>85</td>
</tr>
<tr>
<td>4.5.3 The link between IPV and PRS perpetration</td>
<td>86</td>
</tr>
<tr>
<td>4.5.4 Prevalence of IPV and PRS victimisation in the sample</td>
<td>88</td>
</tr>
<tr>
<td>4.5.5 The link between IPV and PRS victimisation</td>
<td>88</td>
</tr>
<tr>
<td>4.6 Discussion</td>
<td>92</td>
</tr>
<tr>
<td>4.6.1 Implications</td>
<td>94</td>
</tr>
<tr>
<td>4.6.2 Future directions</td>
<td>96</td>
</tr>
<tr>
<td>4.7 Conclusion</td>
<td>96</td>
</tr>
<tr>
<td>4.8 References</td>
<td>97</td>
</tr>
</tbody>
</table>
4.2 Abstract

The link between intimate partner violence (IPV) during a relationship and post-relationship stalking (PRS) is poorly understood. The vast majority of relevant studies focuses either on male perpetration or female victimisation and uses highly selective samples. The current study aimed to illuminate the link between IPV and PRS perpetration and victimisation, respectively. To this end, heterosexual male and female university students retrospectively self-reported on IPV during their most conflicted relationship and a wide range of pursuit behaviour after the dissolution of this romantic relationship. Using empirical criteria, participants were classified as stalkers or non-stalkers based on their responses. A relationship between male-perpetrated IPV and PRS perpetration was detected. There was no systematic relationship between IPV and PRS perpetration in women. In contrast, there was a link between IPV and stalking victimisation that followed a similar, linear trend in both male and female victims. A larger proportion of participants were classified as stalking victims as IPV severity increased. Implications for research (e.g., the importance of gender-inclusive studies), clinical practice (e.g., how to prevent stalking after an abusive relationship), and future directions (e.g., the need for prospective studies using more diverse samples) are discussed.

Keywords: intimate partner violence, domestic violence, stalking, poly-perpetration, poly-victimisation
4.3 Introduction

The link between intimate partner violence during a relationship and post-separation relationship pursuit and stalking is poorly understood (Douglas & Dutton, 2001; McEwan, Shea, Nazarewicz, & Senkans, in press). This is partly because existing studies of intimate partner violence and post-relationship stalking often conflate the two behaviours, obscuring potential differences and factors that link them. The current research will add to the emerging body of literature on the link between these two behaviours, and ongoing attempts to more distinctively define and operationalise the behaviours.

Intimate partner violence (IPV) includes psychologically, physically, and sexually aggressive behaviours toward a current intimate partner (Strauss, Hamby, Boney-McCoy, & Sugarman, 1996). Recent meta-analyses (largely involving studies from English-speaking industrialised nations) indicate that 23.1% of women and 19.3% of men experience physical violence committed by a current partner (Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012a). In addition, 28.3% of women 21.6% of men report perpetrating physical violence against a current partner (Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012b). These results mirror findings from earlier meta-analyses (Archer, 2002). Mutuality of violence is common, accounting for approximately 50-70% of cases in which IPV occurs (Langhinrichsen-Rohling, Misra, Selwyn, & Rohling, 2012).

While IPV occurs during a romantic relationship, stalking occurs after its end. Post-relationship stalking (PRS) may be defined as a pattern of targeted, repeated, and unwanted intrusive acts that can be reasonably expected to cause apprehension, distress, or fear in the victim, which occurs after a romantic relationship has dissolved (Douglas & Dutton, 2001; McEwan et al., in press; Mullen, Pathé, & Purcell, 2009). Relating to the differing contexts, another key dissimilarity between IPV and PRS concerns the level rather than the nature of contact between perpetrator and victim. While IPV refers to unacceptable nature of a perpetrator’s behaviour during an ongoing relationship, the nature of behaviour is somewhat irrelevant to stalking given that stalking is defined by a discrepancy in desired level of contact between the stalker and their target – any contact is inappropriate, regardless of its nature (Cupach & Spitzberg, 2004; McEwan et al., in press; Mullen et al., 2009; Spitzberg & Cupach, 2014).

Stalking is less common than IPV with approximately 15% of people reporting stalking victimisation across their lifetime (McEwan & Pathé, 2014). In addition, in contrast to IPV, women report two to four times the rate of stalking victimisation than men (Australian Bureau

Some unwanted pursuit behaviour, with the aim of reconciling a recently ended relationship, appears relatively normative and is ubiquitous in university students (Langhinrichsen-Rohling, Palarea, Cohen, & Rohling, 2002) and relatively common amongst divorcees (De Smet, Loeys, & Buysse, 2012, 2013). Thus, it is important to be able to distinguish between brief episodes of relational intrusiveness and more persistent pursuit that may constitute stalking. Purcell, Pathé, and Mullen (2004) found that pursuit that persisted beyond two weeks was associated with a more intrusive, threatening, and psychologically harmful course of conduct. Thompson and Dennison (2008) focussed on the number of intrusions rather than their overall duration and concluded that a criterion of five or more behaviours should be used as it adequately captured serious pursuit behaviours such as violence and excluded seemingly normative post-separation contacts (Thompson & Dennison, 2008). This paper employs such a purely behavioural definition of stalking. In this study, unwanted pursuit behaviour that persisted beyond two weeks and exceeded five unwanted intrusions (inclusive), was defined as stalking (Purcell et al., 2004; Thompson & Dennison, 2008).

4.3.1 The link between IPV and stalking. Stalking that emerges following the breakdown of an intimate relationship accounts for approximately 45% of all stalking cases (Spitzberg et al., 2010). Stalking in this context has often been conceptualised as a facet of male-perpetrated domestic abuse and coercive control toward female partners or an extension of battering (Mullen et al., 2009; Stark, 2007; L. E. Walker & Meloy, 1998). This view shaped anti-stalking legislation in some countries (Mullen et al., 2009; Viñas-Racionero, Raghavan, Soria-Verde, & Prat-Santaolalia, 2015) and continues to colour much of the research literature (McEwan et al., in press).

However, there has been little research actually investigating whether IPV inevitably leads to stalking, or whether stalking is invariably preceded by IPV. Douglas and Dutton (2001) identified two angles from which the link between IPV and stalking can be investigated: i) the proportion of IPV perpetrators who go on to stalk their former partners; and ii) the proportion of stalkers who perpetrated IPV towards their target while the relationship was intact. In the former question, the IPV perpetrator or victim is the participant and stalking is the study variable, while in the latter the PRS perpetrator or victim is the participant and the study
variable is IPV.

The majority of studies have investigated the link using stalking perpetrators and victims. This may be due to PRS by definition occurring after IPV, so it may be more easily ascertained in the predominant retrospective study design. The existing research almost exclusively uses male perpetrators and female victims as the study participants. Using law enforcement and court information (e.g., perpetrator case files), existing studies have found evidence of IPV perpetration in 33.1% (McEwan et al., in press), 43.5% (Brooks, 2010), 55% (Morrison, 2008), and 76% (Nicastro, Cousins, & Spitzberg, 2000) of their respective sample of stalking perpetrators. Given the selective nature of many samples (e.g., Nicastro et al., 2000), some of these studies may be over-estimating the occurrence of IPV amongst PRS perpetrators. Studies that have collected information from female stalking victims found evidence of previous IPV victimisation by the same person in 32% (Logan, Nigoff, Walker, & Jordon, 2002), 42% (Lorraine Sheridan, private communication 6.5.2014, cited in McEwan et al., in press), 65% (Brewster, 2000), and 85% (Ferreira & Matos, 2013) of their respective samples. The studies used very different samples but similar methodologies (self-report studies in self-identified victims). Interestingly, one study also found that 69% of stalking victims reported perpetrating physical and/or psychological IPV while the relationship with their stalker was intact (Ferreira & Matos, 2013).

Another group of studies has approached the research question from the other angle, in which the IPV perpetrator or victim is the study’s participant and subsequent PRS perpetration or victimisation is the study variable. The single available study examining perpetration found subsequent stalking perpetration amongst 30% of male IPV perpetrators (Burgess et al., 1997). However, this study may have not adequately distinguished between pursuit behaviours that occurred during or after a relationship, throwing its findings into doubt. Another study by this research group recruited court-mandated IPV perpetrators (90% male), of whom almost half reported contacting their victim during periods of separation. Three percent reported making threats and six percent indicated that they perpetrated physical violence against their ex-partner. An overall rate of stalking was not provided (Burgess, Harner, Baker, Hartman, & Lole, 2001). A handful of studies have examined post-relationship stalking in samples of known female IPV victims, finding victimisation prevalence rates of, 48% (Edwards & Gidycz, 2014), 49% (Ornstein & Rickne, 2013), and 75% (Langhinrichsen-Rohling, 2006), respectively. The study by Edwards and Gidycz (2014) used the strongest methodology, a prospective design, while the others used cross-sectional retrospective designs that may be
subject to considerable bias. One study reported that 25% of female IPV victims also acknowledged stalking the stalking perpetrator (Langhinrichsen-Rohling, 2006).

While the available studies provide useful information regarding the overlap of IPV and PRS, they also have a number of limitations. Many of the studies use problematic definitions of PRS that are potentially overly inclusive (e.g., classifying individuals experiencing a single intrusion as stalking). None of the studies considered duration of pursuit, although research indicates that only pursuit that persists for two weeks or longer and includes more than five intrusions should be construed as stalking (Purcell et al., 2004; Thompson & Dennison, 2008). Another limitation is the failure to consider female perpetration of both IPV and PRS (with the exception of Langhinrichsen-Rohling, 2006, and Ferreira & Matos, 2013 who both considered some female perpetration). To the best of our knowledge, there are no studies on the link between IPV and PRS in male victims, which is a significant limitation given that men constitute a significant minority of all stalking victims (Spitzberg et al., 2010; Tjaden & Thoennes, 1998) and a significant number of IPV victims (Desmarais et al., 2012a). Most studies are also limited by highly selective samples such as self-identified victims (Brewster, 2000; Ferreira & Matos, 2013; Langhinrichsen-Rohling, 2006) and perpetrators involved with the criminal justice system or clinical services (Brooks, 2010; Burgess et al., 2001; McEwan et al., in press; Morrison, 2008; Nicastro et al., 2000), potentially leading to bias in the results.

In addition, few studies go beyond reporting percentage overlaps of IPV and stalking given that in many cases establishing the link between IPV and PRS was not the primary aim of the study. There are some exceptions. For example, Ornstein and Rickne (2013) examined predictors of PRS, finding that women who reported that their partner engaged in controlling behaviour were more likely to experience later stalking victimisation. Nevertheless, all studies investigate the link between IPV and PRS from only one of the possible angles described above. That is, measure PRS in IPV perpetrators/victims, or IPV in PRS perpetrators/victims.

A number of studies of PRS and IPV conducted with university students from the United States may go some way towards overcoming the issue of sample bias and lack of more detailed information about the stalking-IPV link. The main contribution of these studies, besides using gender-inclusive samples, is that they identify which types of IPV may be more strongly associated with stalking.

Studies in university students generally reported a small to moderate relationship between perpetrating psychological abuse while a relationship was intact and post-separation pursuit perpetration, with this relationship being equal across gender or stronger in men than...
women. In contrast, most available studies did not find a strong link between physical abuse perpetration and pursuit perpetration (Langhinrichsen-Rohling et al., 2002; Logan, Leukefeld, & Walker, 2000). For example, Langhinrichsen-Rohling et al. (2002) conducted a study in a sample of 282 male and female students using comprehensive measures of both IPV (Strauss et al., 1996) and stalking. Participants who reported initiating the breakup \((n = 162)\) described their ex-partner’s pursuit behaviour. Participants who indicated that their ex-partner broke up with them \((n = 120)\), breakup sufferers, reported on their own pursuit behaviour. There were no significant relationships between physical assault perpetration while the relationship was intact and levels of unwanted pursuit behaviour perpetration in breakup sufferers.

The link between psychological IPV and stalking that was evident regarding perpetration also existed for victimisation (Davis, Ace, & Andra, 2000; Dye & Davis, 2003; Logan et al., 2000). In response to these results, K. E. Davis and colleagues (2000, 2003) theorised that post-separation pursuit is simply a continuation of relational coercion that originated while the relationship was still ongoing. That is, persistent pursuit, psychological, and physical, and possibly sexual coercion may share common underlying causes.

In Langhinrichsen-Rohling et al.’s (2002) breakup initiators, physical assault victimisation during the relationship predicted post-relationship stalking victimisation. Logan et al. (2000) also found that both male and female stalking victims reported higher rates of physical assault victimisation than their non-pursued counterparts. Only one study has tested the link between sexual coercion and stalking victimisation. This recent study by Katz and Rich (2015), suggests that experiencing sexual coercion while a relationship was intact was predictive of PRS victimisation in women (Katz & Rich, 2015).

Although these studies predominantly use gender-inclusive samples and ask both women and men about both victimisation and perpetration of IPV and stalking (except Katz & Rich, 2015), they still face many limitations. For example, their participants were very young (Davis et al., 2000; Dye & Davis, 2003; Katz & Rich, 2015; Logan et al., 2000), none of the studies included measures of impression management, and, with the exception of Katz and Rich (2015), study protocols did not ask participants how long pursuit behaviours were committed or experienced making it difficult to know whether they were truly measuring significant pursuit behaviours that could constitute stalking. In addition, some studies used narrow and potentially incomplete definitions of stalking behaviour, excluding verbal and physical abuse from the stalking measure (Davis et al., 2000; Dye & Davis, 2003). This is clearly problematic given the frequency with which threatening and violent behaviours occur in post-separation stalking.

Given the limitations of the extant literature, the aim of the current study was to comprehensively evaluate the link between IPV and PRS perpetration and victimisation in a large, gender-inclusive Australian student sample. Due to the limitations of the existing research, exploratory hypotheses were investigated. Specifically, we explored links between PRS and IPV by studying: i) the proportion of IPV perpetrators engaging in PRS and the proportion of PRS perpetrators engaging in IPV, ii) which types of IPV (e.g., psychological abuse) distinguish stalkers from non-stalkers, iii) correlations between psychological, physical, injurious, and sexual IPV and subsequent PRS perpetration, iv) the proportion of IPV victims who also experience PRS and the proportion of PRS victims reporting IPV experiences, v) which types of IPV distinguish PRS victims from non-victims, and vi) correlations between psychological, physical, injurious, and sexual IPV and PRS victimisation. All analyses were conducted separately by gender.

4.4 Method

4.4.1 Sample. Course credits were used to compensate 1,000 undergraduate students for participating in a larger research project (Senkans, 2016). In the total sample, 83.4% \((n = 834)\) identified as exclusively and 8% as predominantly heterosexual \((n = 80)\), 3.5% \((n = 35)\) identified as bisexual, 3.5% \((n = 35)\) as exclusively or predominantly homosexual, the remainder (1.6%) did not want to specify their sexual orientation or ticked “other” \((n = 16)\). The sample used in this paper comprised individuals who indicated they were exclusively or predominantly heterosexual given the gender related research questions. One further participant was excluded as they did not want to specify their gender.

Of the remaining 913 participants 46.2% reported their relationship and breakup behaviour regarding the same relationship. The final study sample comprised 422 participants aged between 18 and 59 years \((M = 30.19, SD = 9.93)\), of whom 66.8% \((n = 282)\) were female. Eighty-five percent \((n = 360)\) of participants considered themselves Australian (including 5 identifying themselves as Aboriginal Australian and 82 identifying a combined ethnicity such as Chinese-, Italian-, or Indian-Australian); 4.0% \((n = 17)\) various European ethnicities; 1.4% \((n = 6)\) various Asian ethnicities; 0.5% \((n = 2)\) a Southern or Eastern African ethnicity; 0.9% \((n = 4)\) various North African or Middle Eastern ethnicities; 0.2% \((n = 1)\) New Zealander or Maori; 0.7% \((n = 3)\) a North American ethnicity; and, 2.4% \((n = 10)\) a mixed but not Australian ethnicity. Nineteen participants (4.5%) did not specify their ethnicity. Most participants had completed secondary school \((n = 403, 95.5)\), 42.7% had already completed a diploma or certificate, 17.5%
another Bachelor degree and 2.8% had postgraduate qualifications. The median income was AUD$30,000 – 40,000 ($1 = 10,000 – 20,000; $1 = 60,000 – 70,000), less than the average Australian income of approx. $60,000 (Australian Bureau of Statistics, 2016). Ninety-one percent ($n = 383) of participants spoke English as their first language.

4.4.2 Measures. This study focussed on IPV during the participant’s most conflicted relationship, and pursuit behaviours experienced during their most memorable breakup. Meta-analyses indicate that relationship discord is positively associated with IPV, while relationship satisfaction is negatively associated with IPV (Stith, Green, Smith, & Ward, 2008). Both effects have a small-to-moderate effect size and effects are stronger for males than for females (Stith et al., 2008). Similarly, stalking seems to occur more frequently in dyads who previously had a conflicted relationships (e.g., De Smet et al., 2012; Logan et al., 2000). Thus, instead of asking participants if they had experienced IPV/PRS in their lifetime, which may involve reporting on different relationships and breakups, we asked participants to report on their most conflicted relationship and breakup.

4.4.2.1 Conflict Tactics Scale Revised (CTS-2). Intimate partner violence perpetration and victimisation was assessed using the psychological aggression, physical assault, sexual coercion, and injury subscales of the Conflict Tactics Scale Revised (CTS-2; Strauss et al., 1996). Participants answered perpetration and victimisation items on a frequency scale ranging from never, once, twice, 3-5 times, 6-10 times, 11-20 times, and more than 20 times. Reliability values can be found in Table 4.1.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Development sample (perpetration)</th>
<th>Current sample (perpetration)</th>
<th>Current sample (victimisation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological</td>
<td>.79</td>
<td>.77</td>
<td>.87</td>
</tr>
<tr>
<td>Physical</td>
<td>.86</td>
<td>.73</td>
<td>.93</td>
</tr>
<tr>
<td>Injury</td>
<td>.95</td>
<td>.23</td>
<td>.79</td>
</tr>
<tr>
<td>Sexual coercion</td>
<td>.87</td>
<td>.44</td>
<td>.87</td>
</tr>
<tr>
<td>Total CTS-2</td>
<td>.77</td>
<td></td>
<td>.96</td>
</tr>
</tbody>
</table>

Note: All contents are Cronbach’s alpha (α). Victimisation subscale alpha not reported in development sample (Strauss et al., 1996).

4.4.2.2 Stalking Tactics Scale (STS). Pursuit perpetration and victimisation was measured using a scale analogous to the CTS-2 that was developed for this study. Participants were instructed to focus on a time when they themselves and/or an ex-partner have struggled
to let go of a relationship and they and/or the ex-partner had continued contact or pursuit behaviour despite the respective other telling them to stop. The STS included 17 items reflecting eight facets of pursuit behaviour identified by Cupach and Spitzberg (e.g., 2004; 2007): Hyper-intimacy concerns courtship behaviours engaged in at an excessive frequency or being unwanted by the target (2 items). Mediated contacts include all communications that use technologies such as text messages and Facebook (3 items). Interactional contacts represent actions that aim at face-to-face encounters or unmediated conversations (2 items). Surveillance tactics include systematic information gathering about the target without them being aware of surveillance activities (4 items). Invasion encompasses actions such as breaking into the target’s home or trespassing (one item). Harassment consists of verbal and non-verbal activities that aim at upsetting, annoying, or stressing the target (2 items). Threats, implied or overt suggestions that the stalker will harm the target or third parties, is considered as one of the most severe form of pursuit behaviour (one item). Property damage refers to intentionally damaging the target’s things (1 item). Finally, violence refers to perpetrating a violent act aimed at the victim or third parties associated with the victim (1 item). Cronbach’s alpha of the full STS was $\alpha = .91$ for victimisation and $\alpha = .70$ for perpetration. Participants answered perpetration and victimisation items on a frequency scale ranging from never, once, twice, 3-5 times, 6-10 times, 11-20 times, and more than 20 times. Participants were also asked how long their pursuit behaviour and their partner’s pursuit behaviour persisted and whether it was ongoing. Response categories were More than a fortnight, Less than a fortnight, and Not Applicable.

4.4.2.3 Socially-desirable responding. Socially-desirable responding was measured using the Impression Management (IM) subscale of the Balanced Inventory of Desirable Responding (BIDR-6)² (Paulhus, 1991). The IM scale consists of 20 items that test the conscious tendency to portray oneself in a socially desirable light (e.g., “I always obey laws even when it’s unlikely I’ll get caught”). Participants answer on a 7-point Likert-type scale ranging from 1 = not true to 7 = very true. Paulhus (1991) summarised available validation studies. In these validation studies, Cronbach’s alpha ranged from .75 to .86 and the IM scale had a test-retest reliability of .65 over a 5 week period. It showed strong correlations with other measures of socially desirable responding. Higher scores indicate a stronger tendency to impression manage (ten items are reverse-scored). In the current sample, Cronbach’s alpha of IM was $\alpha = .78$.

4.4.3 Intimate partner violence variable definitions. As per the CTS-2 manual, we

---

² Used with permission.
created an IPV prevalence and IPV frequency variable. A binary *IPV prevalence* variable was created for each minor and severe subscale of the CTS-2 (see Table 4.2). We computed a continuous variable *IPV frequency* that specified the number of times participants had engaged in IPV or had experienced IPV (this value was 0 for individuals who did not perpetrate this type of IPV). The CTS response categories require participants to estimate the number of times a behaviour occurred as 0, 1, 2, 3-5, 6-10, 11-20 and ‘more than 20’. Responses in each category were given a numerical value determined by the value of the midpoint of that category. So for categories 0, 1, and 2 the category score is identical to the category number. Participants endorsing response category 3-5 times received a score of 4, category 6-10 times received 8, category 11-19 received 15, and category ‘more than 20’ received 25. The category “Not in the past year, but it happened before” was not included in this study as the CTS-2 standard instructions were amended as described above. To take into account the prevalence, frequency, and severity of IPV acts, we computed an ordinal *IPV severity* variable which provided an overall measure of severity based on both the frequency and nature of IPV reported (scoring rules for all CTS-based IPV variables are shown in Table 4.2). We computed separate perpetration and victimisation variables for all IPV variables using the same criteria, applying to victimisation and perpetration items, respectively.

Table 4.2 Intimate Partner Violence Variables Coding Rules.

<table>
<thead>
<tr>
<th>IPV Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPV prevalence (binary)</td>
<td>0  Participants endorsed “never” on all items of respective CTS-2 subscale</td>
</tr>
<tr>
<td></td>
<td>1  Participants endorsed one or more behaviours on one or more item(s) of</td>
</tr>
<tr>
<td></td>
<td>respective CTS-2 subscale</td>
</tr>
<tr>
<td>IPV frequency</td>
<td>0  None – Fewer than 50 instances of minor psychological aggression, no</td>
</tr>
<tr>
<td></td>
<td>other abuse</td>
</tr>
<tr>
<td></td>
<td>1  Low – More than 50 instances of minor psychological aggression, and/or</td>
</tr>
<tr>
<td></td>
<td>fewer than 10 instances of severe psychological aggression, but no</td>
</tr>
<tr>
<td></td>
<td>other abuse</td>
</tr>
<tr>
<td></td>
<td>2  Moderate (Mod) – Between 1 and 10 instances of minor forms of physical</td>
</tr>
<tr>
<td></td>
<td>assault, and/or sexual coercion, and/or injury and/or 10 or more</td>
</tr>
<tr>
<td></td>
<td>instances of severe psychological aggression</td>
</tr>
<tr>
<td></td>
<td>3  High – Any instance of severe forms of physical assault, sexual coercion,</td>
</tr>
<tr>
<td></td>
<td>and/or injury, and/or 10 or more instances of minor forms of physical</td>
</tr>
<tr>
<td></td>
<td>assault, sexual coercion, and/or injury and/or more than 50 instances</td>
</tr>
<tr>
<td></td>
<td>of severe psychological aggression</td>
</tr>
</tbody>
</table>

Chapter 4: Assessing the Link between IPV and PRS
Due to low cell counts in the low IPV category and to reduce the number of post-hoc analyses, none and low IPV were combined for significance testing.

4.4.4 **Post-relationship stalking variable definitions.** We used empirically derived criteria to classify participants into stalkers and non-stalkers and stalking victims and non-victims. Participants who reported committing more than 5 intrusions (Thompson & Dennison, 2008) over a time frame of longer than two weeks (Purcell et al., 2004) were classified as stalkers. Participants who reported experiencing more than 5 intrusions over a time frame of longer than two weeks were classified as stalking victims. **Pursuit frequency** was computed in the same manner as IPV frequency. Responses in each category received a numerical value corresponding to the midpoint of that category as described for the CTS-2 above.

4.4.5 **Statistical analyses.** Contingency table analyses ($\chi^2$) were used to test how many IPV perpetrators reported PRS perpetration and how many IPV victims reported PRS victimisation (and vice versa). As the $\chi^2$ test is an omnibus test, adjusted standardised residuals were computed for all cells to determine the exact nature of differences. We employed Bonferroni correction for multiple tests ($n = 6$) and corrected $\alpha = .05$ to $\alpha = .008$ (Beasley & Schumacker, 1995). The Odd ratio (OR) were used as a measure of effect size. Odds ratios above or equal to 2.0 have been described as indicating a practically significant (small) effect, $OR = 3$ moderate effect, and $OR = 4$ and larger indicate strong effects (Ferguson, 2009). Kendall’s tau was used to test correlational relationships between IPV and PRS. If correlation coefficients differed between men and women was tested using a z-score calculator provided by Preacher (2002). Mann-Whitney U for mean rank differences on frequency and ordinal variables using the probabilistic effect size $\Theta$. A small effect size is $\Theta = .56$, a medium effect is $\Theta = .64$, and a strong effect is $\Theta = .70$ (Acion, Peterson, Temple, & Arndt, 2006).

4.4.6 **Procedure.** An online survey was hosted on the platform Surveymonkey™. Participants provided informed consent and answered demographic questions before completing eight randomly ordered individual differences and attitude scales, of which this paper reports one (IM). Participants then completed the CTS-2, followed by the STS. At the end of participation, all participants received debriefing information. The study protocol was approved by the University Human Research Ethics Committee.
4.5 Results

4.5.1 Socially desirable responding. Correlations between impression management and IPV victimisation and perpetration were non-significant or very small. The highest correlation found was between IM and minor sexual coercion perpetration ($τ_b = -.17, p < .001$). Regarding victimisation, the highest correlation found was between IM and severe sexual coercion victimisation ($τ_b = -.10, p < .01$). The highest correlation in relation to pursuit behaviours was between IM and surveillance perpetration ($τ_b = -.12, p < .01$). The highest correlation between IM and stalking experiences was evident in regards to threats ($τ_b = -.10, p < .05$). Impression Management was correlated with IPV perpetration severity ($τ_b = -.11, p < .001$) and uncorrelated with IPV victimisation severity. Individuals who were classified as stalkers achieved significantly lower mean rank on IM than non-stalkers, which represented a small-to-medium effect ($U = 12496.00, p < .01, θ = .60$), while the relationship between stalking victimisation and IM was insignificant.

4.5.2 Prevalence of IPV and PRS perpetration in the sample. Before results regarding the link between IPV and stalking perpetration will be described, a brief overview over separate IPV and PRS findings is provided. More women than men reported perpetrating minor psychological abuse ($χ^2(1) = 16.58, p < .001, OR = 4.20$), severe psychological abuse ($χ^2(1) = 5.07, p < .05, OR = 1.62$), minor physical abuse ($χ^2(1) = 19.54, p < .001, OR = 2.56$), severe physical abuse ($χ^2(1) = 9.55, p < .01, OR = 2.59$), and minor injury ($χ^2(1) = 4.69, p < .05, OR = 2.27$). In contrast, a higher number of men than women acknowledged perpetrating minor sexual coercion ($χ^2(1) = 13.05, p < .001, OR = 2.40$).

Table 4.3 Intimate Partner Violence and Post-relationship Stalking Perpetration by Gender.

<table>
<thead>
<tr>
<th></th>
<th>Males n = 140</th>
<th></th>
<th>Females n = 282</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>IPV severity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>none</td>
<td>39.3</td>
<td>55</td>
<td>26.6</td>
<td>75</td>
</tr>
<tr>
<td>low</td>
<td>12.1</td>
<td>17</td>
<td>9.6</td>
<td>27</td>
</tr>
<tr>
<td>moderate</td>
<td>26.4</td>
<td>37</td>
<td>34.0</td>
<td>96</td>
</tr>
<tr>
<td>high</td>
<td>22.1</td>
<td>31</td>
<td>29.8</td>
<td>84</td>
</tr>
<tr>
<td>Stalking</td>
<td>25.7</td>
<td>36</td>
<td>20.9</td>
<td>59</td>
</tr>
</tbody>
</table>
Relatedly, women were slightly more likely to be classified as higher severity IPV perpetrators ($U = 16662.00, p < .01, \Theta = .58$). In contrast, men and women were equally likely to be classified a stalking perpetrator.

### 4.5.3 The link between IPV and PRS perpetration.

Figures 4.1 and 4.2 show the prevalence of PRS reported by IPV perpetrators in each category. Of the 72 males who did not commit significant IPV, only 11 (15.3%) were classified as stalkers. A similarly low proportion (18.9%) of the 37 men who reported moderate IPV reported PRS ($n = 7$). In marked contrast, of the 31 men who committed severe IPV, more than half ($n = 18, 58.1\%$) also reported stalking of the same partner after the relationship had ended. As Figure 4.1 illustrates, there was a clear trend of male IPV perpetrators committing stalking at higher rates. There was no such trend in women. Approximately 20-22% of females reported stalking of a former partner across IPV severity categories, which was around the base rate of female stalking (see Table 4.3).

![Figure 4.1 Post-Relationship Stalking (%) in Intimate Partner Violence Perpetrators by Gender.](image)

Of the 36 men who were classified as stalkers, 7 (19.4%) reported moderate and another 18 (50%) reported high IPV perpetration against the same victim while the relationship was intact. As shown in Figure 4.2, male stalkers were more likely to have moderate or high severity IPV during the relationship.

The patterns shown in Figure 4.1 and Figure 4.2 were significantly different in the male subsample ($\chi^2 (2) = 21.98, p < .001$). Male high severity IPV perpetrators were more likely to...

Chapter 4: Assessing the Link between IPV and PRS
Stalk their partner \((z = 2.90, \chi^2 (1) = 8.47, p < .004)\), while men who reported no/low IPV were significantly less likely to stalk \((z = 4.70, \chi^2 (1) = 21.81, p < .001)\). There were no significant differences in PRS perpetration between IPV categories in the female subsample \((\chi^2 (2) = .05, p = .975)\).

![Figure 4.2 Intimate Partner Violence (%) in Post-Relationship Stalking Perpetrators by Gender.](image)

Men who acknowledged severe physical assault \((\chi^2 (1) = 17.02, p < .001, OR = 9.62, CI 2.79, 33.14)\)^3 and minor sexual coercion \((\chi^2 (1) = 8.47, p = .01, OR = 3.16, CI 1.43, 6.98)\) were more likely to go on to stalk their former partners than men who did not report these types of behaviours. All correlations between IPV frequency and stalking perpetration frequency were very small to small. The only moderate correlation was found between male stalking perpetration and minor sexual coercion (see Table 4.4), which was also the only correlation that significantly differed between genders \((z = 1.75, p < .05)\).

---

3 The cell severe physical abuse present x stalking absent had a cell count of \(n = 4\).
Table 4.4 Correlations between IPV and Post-relationship Stalking Perpetration by Gender.

<table>
<thead>
<tr>
<th></th>
<th>MPA</th>
<th>SPA</th>
<th>MPhysA</th>
<th>SPhysA</th>
<th>MI</th>
<th>SI</th>
<th>MSC</th>
<th>SSC</th>
<th>PRS frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>.13</td>
<td>.17</td>
<td>.14</td>
<td>.18</td>
<td>n.s.</td>
<td>n.s.</td>
<td>.11</td>
<td>.12</td>
<td>n.s.</td>
</tr>
<tr>
<td>Male</td>
<td>.22</td>
<td>.21</td>
<td>.21</td>
<td>.26</td>
<td>n.s.</td>
<td>n.s.</td>
<td>.29</td>
<td>n.s.</td>
<td></td>
</tr>
</tbody>
</table>

Note. MPA = Minor psychological abuse; SPA = Severe psychological abuse; MPhysA = Minor physical assault; SPhysA = Severe physical assault; MI = Minor injury; SI = Severe injury; MSC = Minor Sexual Coercion; SSC = Severe Sexual Coercion. All correlations significant at \( p < .05 \).

Correlation is significantly higher in men than in women

4.5.4 Prevalence of IPV and PRS victimisation in the sample. This section uses a subsample of 350 individuals (113 men and 237 women) who chose to report on the same relationship for PRS and IPV victimisation. In this subsample, more women than men reported experiencing IPV victimisation across all subtypes: minor psychological (\( \chi^2 (1) = 17.56, p < .001, OR = 6.35 \)), severe psychological (\( \chi^2 (1) = 8.04, p < .01, OR = 1.92 \)), minor physical (\( \chi^2 (1) = 19.08, p < .001, OR = 2.78 \)), severe physical (\( \chi^2 (1) = 27.18, p < .001, OR = 4.88 \)), minor injury (\( \chi^2 (1) = 13.89, p < .001, OR = 3.15 \)), severe injury (\( \chi^2 (1) = 9.41, p < .01, OR = 3.45 \)), minor sexual coercion (\( \chi^2 (1) = 7.92, p < .01, OR = 1.96 \)), and severe sexual coercion (\( \chi^2 (1) = 22.74, p < .001, OR = 10.82 \)). Mirroring these results, women were much more likely to be classified as higher severity IPV victims (\( U = 9920.5, p < .001, \Theta = .75 \)) and post-relationship stalking victims (\( \chi^2 (1) = 21.55, p < .001, OR = 3.05 \)) than men (see Table 4.5).

Table 4.5 Intimate Partner Violence and Post-relationship Stalking Victimisation by Gender.

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>n = 113</th>
<th>Females</th>
<th>n = 237</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPV severity</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>none</td>
<td>35.4</td>
<td>40</td>
<td>21.5</td>
<td>51</td>
</tr>
<tr>
<td>low</td>
<td>11.5</td>
<td>13</td>
<td>6.8</td>
<td>16</td>
</tr>
<tr>
<td>moderate</td>
<td>23.9</td>
<td>27</td>
<td>18.6</td>
<td>44</td>
</tr>
<tr>
<td>high</td>
<td>29.2</td>
<td>33</td>
<td>53.2</td>
<td>126</td>
</tr>
<tr>
<td>Stalking</td>
<td>29.2</td>
<td>33</td>
<td>55.7</td>
<td>132</td>
</tr>
</tbody>
</table>

4.5.5 The link between IPV and PRS victimisation.

Of the 53 males who did not experience significant IPV, only 6 (11.3%) were classified as stalking victims. Of the 27 men who reported moderate IPV victimisation, eight (29.6%) also reported PRS victimisation. Of the 33 men who reported experiencing severe IPV victimisation,
more than half \( n = 19, 57.6\% \) also reported experiencing stalking by the same partner after the relationship had ended. The same trend was evident in women (see Figure 4.3). However, on average, rates of stalking victimisation were 17.3% higher in women than in men across IPV categories.

![Figure 4.3 Post-Relationship Stalking Victimisation (%) in Intimate Partner Violence Victims by Gender.](image)

Of the 33 men who were classified as stalking victims, 6 (18.2%) reported none/low IPV, 8 (24.4%) moderate and another 19 (57.6%) reported experiencing high severity IPV while the relationship was intact. Among female stalking victims, 23 (17.4%) reported no significant IPV, 20 (15.2%) moderate, and 89 (67.4%) reported experiencing high severity IPV while the relationship was intact (see Figure 4.4).

There was a link between experiencing higher severity IPV and stalking victimisation in both genders. In men, high IPV victimisation was related to subsequent stalking victimisation \( z = 4.26, \chi^2 (1) = 18.15, p < .001 \). The link between higher severity IPV and stalking seen in male victims was more pronounced in women (see above). There was a link between high severity IPV victimisation and stalking victimisation \( z = 4.93, \chi^2 (1) = 24.30, p < .001 \), while not experiencing IPV was more strongly associated with not reporting stalking \( z = 4.16, \chi^2 (1) = 17.31, p < .001 \).
As shown in Table 4.6, both female and male stalking victims were significantly more likely to have experienced all forms of abuse during the relationship than women and men who did not experience stalking (see Table 4.6).

In women, moderate correlations were found between IPV victimisation frequency and stalking victimisation frequency, while in men, most correlations were small (see Table 4.7). Correlations between IPV victimisation type and stalking victimisation differed between men and women. The correlation between minor physical assault victimisation and stalking victimisation was significantly stronger in women than in men ($z = 1.96, p < .03$). The same was the case for severe injury ($z = 2.12, p < .02$) and severe sexual coercion ($z = 2.51, p < .01$).
Table 4.6 IPV Victimisation Group Differences between Stalking Victims and Non-Victims by Gender.

<table>
<thead>
<tr>
<th></th>
<th>Stalking absent</th>
<th>Stalking present</th>
<th>χ²</th>
<th>p</th>
<th>OR</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPA</td>
<td>66</td>
<td>82.5</td>
<td>31</td>
<td>93.9</td>
<td>2.51</td>
<td>.113</td>
</tr>
<tr>
<td>SPA</td>
<td>29</td>
<td>36.3</td>
<td>19</td>
<td>57.6</td>
<td>4.35</td>
<td>.037</td>
</tr>
<tr>
<td>MPhysA</td>
<td>24</td>
<td>30.0</td>
<td>16</td>
<td>48.5</td>
<td>3.49</td>
<td>.062</td>
</tr>
<tr>
<td>SPhysA</td>
<td>3</td>
<td>3.8</td>
<td>10</td>
<td>38.8</td>
<td>16.18</td>
<td>.000</td>
</tr>
<tr>
<td>MI</td>
<td>5</td>
<td>6.3</td>
<td>9</td>
<td>27.3</td>
<td>9.51</td>
<td>.002</td>
</tr>
<tr>
<td>SI</td>
<td>3</td>
<td>3.8</td>
<td>4</td>
<td>12.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSC</td>
<td>15</td>
<td>18.8</td>
<td>20</td>
<td>60.6</td>
<td>19.14</td>
<td>.000</td>
</tr>
<tr>
<td>SSC</td>
<td>1</td>
<td>1.3</td>
<td>2</td>
<td>6.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPA</td>
<td>99</td>
<td>94.3</td>
<td>132</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPA</td>
<td>49</td>
<td>46.7</td>
<td>90</td>
<td>68.2</td>
<td>11.16</td>
<td>.001</td>
</tr>
<tr>
<td>MPhysA</td>
<td>47</td>
<td>44.8</td>
<td>96</td>
<td>72.7</td>
<td>19.11</td>
<td>.000</td>
</tr>
<tr>
<td>SPhysA</td>
<td>20</td>
<td>19.0</td>
<td>72</td>
<td>54.5</td>
<td>31.03</td>
<td>.000</td>
</tr>
<tr>
<td>MI</td>
<td>16</td>
<td>15.2</td>
<td>57</td>
<td>43.2</td>
<td>21.43</td>
<td>.000</td>
</tr>
<tr>
<td>SI</td>
<td>9</td>
<td>8.6</td>
<td>35</td>
<td>26.5</td>
<td>12.46</td>
<td>.000</td>
</tr>
<tr>
<td>MSC</td>
<td>31</td>
<td>29.5</td>
<td>80</td>
<td>60.6</td>
<td>22.69</td>
<td>.000</td>
</tr>
<tr>
<td>SSC</td>
<td>11</td>
<td>10.5</td>
<td>43</td>
<td>32.6</td>
<td>16.23</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note. MPA = Minor psychological abuse; SPA = Severe psychological abuse; MPhysA = Minor physical assault; SPhysA = Severe physical assault; MI = Minor injury; SI = Severe injury; MSC = Minor Sexual Coercion; SSC = Severe Sexual Coercion. Severe injury and severe sexual coercion comparisons could not be computed in the male subsample due to n < 5 cell sizes.

Table 4.7 Correlations between IPV and Post-relationship Stalking Victimisation by Gender.

<table>
<thead>
<tr>
<th></th>
<th>MPA</th>
<th>SPA</th>
<th>MPhysA</th>
<th>SPhysA</th>
<th>MI</th>
<th>SI</th>
<th>MS</th>
<th>SS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stalking victimisation frequency</td>
<td>Female</td>
<td>.35</td>
<td>.28</td>
<td>.36</td>
<td>.34</td>
<td>.33</td>
<td>.31</td>
<td>.32</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>.24</td>
<td>.22</td>
<td>.15</td>
<td>.25</td>
<td>.24</td>
<td>n. s.</td>
<td>.36</td>
</tr>
</tbody>
</table>

Note. MPA = Minor psychological abuse; SPA = Severe psychological abuse; MPhysA = Minor physical assault; SPhysA = Severe physical assault; MI = Minor injury; SI = Severe injury; MSC = Minor Sexual Coercion; SSC = Severe Sexual Coercion. All correlations significant at p < .05.

b Correlation is significantly higher in women than in men.
4.6 Discussion

The aim of this study was to investigate the relationship between IPV and PRS perpetration and victimisation in a sample of Australian men and women. The relationship between perpetrating IPV and PRS appeared to differ by gender. Men who reported more severe IPV perpetration were more likely to also report PRS perpetration than men who reported less severe IPV perpetration. Almost 60% of male severe IPV perpetrators went on to stalk their partners after the abusive relationship had dissolved. This was not true for women, whose rates of IPV and PRS perpetration were unrelated. The study lends further support to the existing research which estimates that around 30 – 60% of IPV cases go on to involve PRS (Douglas & Dutton, 2001; McEwan et al., in press).

Our findings do not support Davis and colleagues’ suggestion that stalkers are more likely to have previously used psychological abuse during the relationship. While our study showed that both minor and severe psychological abuse and stalking perpetration were correlated, these correlations were small. In addition, the presence of psychological abuse did not differentiate stalkers from non-stalkers. This may be due to the very ubiquitous nature of psychological abuse in the sample, which may have limited its predictive value. The differences in results between Davis and colleagues’ studies and the current research could also be due to different ways of ascertaining psychological abuse and stalking (e.g., psychological abuse may have been more predictive of stalking given that their definition of stalking excluded physical violence or threats). However, given that the present study used more rigorous methods of determining the presence of these two constructs it may be possible that the association between psychological IPV and stalking is simply less strong than previously shown.

In contrast, our findings support a small positive correlation between severe physical intimate partner assault and stalking perpetration in both genders. However, severe physical assault during the relationship only distinguished male stalkers from male non-stalkers, with no such relationship for female perpetrators. This is somewhat at odds with existing findings that did not find a relationship between physical IPV and PRS (Langhinrichsen-Rohling et al., 2002; Logan et al., 2000). This could be due to a number of factors such as sample differences, with both previous studies using smaller samples and warrants further research attention.

In contrast to the gendered link between IPV and PRS perpetration, the relationship between IPV and PRS victimisation followed the same trend in men and women. That is, the more severe the IPV experienced during a relationship, the more likely stalking victimisation was to occur after the relationship had dissolved. In our study, around a third of men who
experienced moderate IPV and over half of men who experienced high severity IPV experienced stalking. Just under half of women experiencing moderate IPV and around 70% of women experiencing severe IPV reported stalking after the abusive relationship had dissolved. In women, experiencing psychological abuse, physical assault, injury victimisation, and sexual coercion all increased the odds of stalking victimisation. Strongest effect sizes were observed for severe physical assault and severe sexual coercion. The latter replicated Katz and Rich’s findings (2015). The former supports existing findings by Logan et al. (2000) and Langhinrichsen-Rohling et al. (2002) that link physical IPV victimisation and subsequent PRS victimisation. This study makes a novel contribution by showing a link between IPV victimisation and subsequent stalking victimisation in men. These results suggest that, although the pattern is more pronounced for women, men experiencing IPV victimisation at the hands of a female partner seem to have greater odds for being stalked by that person after the relationship. Like women, most IPV subtypes distinguished male stalking victims from non-victims, with higher proportions of stalking victims also reporting prior severe physical assault, minor injury, and minor sexual coercion.

While this study found a link between perpetrating or experiencing IPV and subsequently being a stalker or a victim of stalking involving the same partner, it also suggests that stalking does not always arise from a relationship marked by IPV. Importantly, female IPV perpetrators did not differ from non-perpetrators regarding stalking perpetration. In addition, around a third of male participants who acknowledged PRS perpetration reported no IPV perpetration during the prior relationship. Moreover, approximately 20% of male and female stalking victims did not report IPV victimisation during the prior relationship. Thus, stalking can and does occur after a non-abusive relationship dissolves and the results suggest that abusive relationships are not invariably followed by stalking (although this requires further research using prospective methodologies).

Intimate partner violence findings in this study were consistent with meta-analytic and other research findings with women reporting slightly higher rates of both perpetration and victimisation, with the exception of sexual coercion, which is more frequently perpetrated by men (Desmarais et al., 2012a, 2012b; Forbes & Adams-Curtis, 2001; O’Sullivan, Byers, & Finkelman, 1998). Interestingly, our study showed that equal numbers of men and women were classified as stalkers when empirical criteria were used. In contrast, women were three times as likely to be classified as a stalking victim, based on their responses. This is in contrast to meta-analytic findings that indicate that in samples roughly comparable to the current study.
sample, men are about 2.5 times as likely to self-identify as a stalker and women are only about 55% more likely to identify as a stalking victim. However, the greatest gender parity is observed in university or college-based samples, with clinical, forensic, and community samples including many more women than men victims (Spitzberg et al., 2010). Community studies indicate two to four times the rate of stalking victimisation among women when compared to men (Australian Bureau of Statistics, 2013; Black et al., 2011; Dressing et al., 2005; Finney, 2006; McEwan & Pathé, 2014; Morris et al., 2002; Narud et al., 2014; Stieger et al., 2008; Van Der Aa & Kunst, 2009), which is in line with our findings ($OR = 3.05; 29.2 \text{ vs. } 55.7\%$). This may be because our student sample was considerably older than other student samples and perhaps more comparable to a general population sample. Future research should investigate how men and women may differ in their perception of their own and others’ pursuit behaviour and how self-identified victims may differ from individuals who are classified as victims (Langhinrichsen-Rohling, 2012).

While our findings are novel in both the stalking and IPV literatures, they must be interpreted with some caution. The rates of IPV and PRS reported in this study should not be interpreted as robust prevalence rates as instructions on the CTS-2 and STS required participants to focus on their most conflicted relationship and break-up, respectively. To be able to investigate links between IPV and stalking, this study focused on participants who chose to report on a past relationship. This may have resulted in an amplification of retrospective bias. We did not ask participants how long ago in the past this relationship had occurred, so could not control for this. In addition, this focus on their most conflicted relationship may have resulted in an overestimation of the IPV-stalking link. We classified individuals as stalking victims, based on their pursuit experiences rather than the impact they had on them. Ascertaining victim fear is difficult in non-legal samples, however a legal criterion for stalking victimisation (Johnson & Thompson, 2016; Mullen et al., 2009). Impression management may also have affected the results of the study. While relationships between impression management and CTS-2 and STS variables were very small, they may have still impacted results. Individuals who were classified as non-stalkers scored significantly higher on IM, so some participants may have been incorrectly classified as non-stalkers.

### 4.6.1 Implications

This study provides important data on the potential link between IPV and stalking in a gender-inclusive and relatively diverse Australian sample. Many of the studies conducted to date on the relationship between IPV and stalking use US samples (see for exceptions Ferreira & Matos, 2013; McEwan et al., in press; Ornstein & Rickne, 2013). Most
studies also focus either on female victims or male perpetrators. The current study addresses this gap by using a gender-inclusive sample of individuals with varied socioeconomic status, ethnicity, and age.

While this study represents a useful first step, the link between IPV and stalking requires much further exploration. The current sample was more diverse than many other university samples, but it is by no means generalizable to all groups and individuals. Future studies should use samples that are more varied and more representative of the general population or specific forensic populations. Nevertheless, this study illustrates the value of asking both women and men about both perpetration and victimisation when investigating any sort of relationship aggression, whether during or after a relationship. This study provides a glimpse of the interrelationship of different kinds of relationship aggression in heterosexual participants, but future studies should focus on participants with diverse gender identities and sexual orientations. Some evidence indicates that same-sex attracted and gender-diverse individuals are at higher risk of experiencing IPV (e.g., Derlega et al., 2011; Messinger, 2011) and very little is known about stalking that may occur after a same-sex romantic relationship dissolves (Strand & McEwan, 2011). It will be important to investigate stalking and the link between IPV and stalking in this group and determine whether the results of the current study hold in a gender- and sexuality-diverse sample.

Rates of both IPV and PRS perpetration and victimisation were high in this sample, regardless of participant gender. We presented links between IPV and stalking for victimisation and perpetration separately for clarity. Rates of bi-directional violence and links between perpetration of one and victimisation by the other type of violence were not presented in this paper, due to space constraints, however as might be hypothesised based on extant literature, there was considerable overlap between perpetration and victimisation. As in the general violence literature, the interconnectedness of IPV and PRS perpetration and victimisation warrants further empirical scrutiny (Hamby & Grych, 2013).

The findings may also have clinical implications, contingent on replication. For example, PRS may be prevented if dyads experiencing significant IPV were directed into some form of breakup counselling or mediation to reduce the potential risk of post-relationship stalking. This sample comprised of university students some of whom were enrolled in online study, however, many were on-campus students. Taking into account the findings of this study, it would be desirable to address issues such as IPV, stalking, and their potential link in university and campus policies and make services readily available to affected students (Ravensberg & Miller,
4.6.2 Future directions. The most comprehensive and methodologically sound way to examine the relationship between IPV and PRS would be to use prospective designs evaluating behaviour during a relationship and then after its end. Such studies would recruit both members of a current romantic relationship and measure IPV at a number of waves. If the couple has broken up during one of the follow-up periods, then the STS can be administered to both ex-partners. Such a prospective research method, while time- and resource-intensive, would allow researchers to draw stronger conclusions about any links between IPV and PRS. In addition, this would generate data on the fluctuation of IPV and PRS across time and allow for investigation of factors influencing desistance from these behaviours (K. Walker, Bowen, & Brown, 2013).

Another important objective for future studies is the continued improvement of stalking measurement, which is still a contested issue in the literature. For example, there is no standardised operationalisation of stalking (Fox, Nobles, & Fisher, 2011). The STS goes some way towards overcoming this problem, but requires further testing and validation. In addition, the relationship between IPV and stalking will not be truly understood until there is better understanding of the psychological mechanisms and relationship characteristics that underpin both behaviours, where they are similar and where they are different. The behaviours are related, however, not co-extensive (McEwan et al., in press). Thus, future theories and studies should address which psychological mechanisms underlie the separate occurrence and co-occurrence of IPV and stalking (Senkans, McEwan, & Ogloff, Chapter 3, this thesis). This may eventually result in being able to assess risk for post-separation stalking when an abusive relationship is coming to an end.

4.7 Conclusion

This study addressed a significant gap in the interpersonal violence literature: the link between IPV and PRS perpetration and victimisation in a non-clinical, gender-inclusive sample. This study suggests that many men and women are both victims and perpetrators of these problematic relationship behaviours. While male perpetrated IPV is linked to post-relationship stalking of the former partner, the same is not true for female IPV perpetration, which was unrelated to subsequent stalking perpetration. For both men and women, being a victim of IPV during a relationship was associated with increased likelihood of becoming a victim of stalking after its end.
Chapter 4: Assessing the Link between IPV and PRS

4.8 References


Brooks, J. M. (2010). *Personological characteristics of adjudicated stalkers as correlates of stalking duration*. (Doctor of Philosophy), Capella University, Ann Arbor, MI, USA.


Chapter 4: Assessing the Link between IPV and PRS

Langhinrichsen-Rohling, J., Misra, T. A., Selwyn, C., & Rohling, M. L. (2012). Rates of bidirectional versus unidirectional intimate partner violence across samples, sexual orientations, and race/ethnicities: A comprehensive review. *Partner Abuse, 3*(2), 199-230. doi: [http://dx.doi.org/10.1891/1946-6560.3.2.199](http://dx.doi.org/10.1891/1946-6560.3.2.199)


Preacher, K. J. (2002). Calculation for the test of the difference between two independent...


Senkans, S. (2016). Relationship Cognition in Intimate Partner Violence and Post-Relationship Stalking. (PhD), Swinburne University of Technology, Melbourne, Australia.


Chapter 4: Assessing the Link between IPV and PRS

5  Cognitive and Relationship Characteristics Associated with Intimate Partner Violence and Post-Relationship Stalking Perpetration
Chapter 5: Cognition in IPV and PRS

5.1 Table of Contents

5 Cognitive and Relationship Characteristics Associated with Intimate Partner Violence and Post-Relationship Stalking Perpetration ................................................................. 102
5.1 Table of Contents ........................................................................................................... 103
5.2 Abstract ....................................................................................................................... 104
5.3 Introduction .................................................................................................................. 105
5.3.1 Cognition associated with relationship aggression. ................................................ 105
5.3.2 Cognition about general violence and antisociality ............................................... 105
5.3.3 Cognition about intimate partner violence and stalking. ....................................... 106
5.3.4 Maladaptive relationship schemas. ....................................................................... 107
5.3.5 Victimization .......................................................................................................... 108
5.3.6 Aims of the current study. ...................................................................................... 108
5.4 Method ......................................................................................................................... 110
5.4.1 Sample.................................................................................................................... 110
5.4.2 Measures and variable definitions ......................................................................... 110
5.4.2.1 Intimate partner violence................................................................................... 110
5.4.2.2 Post-relationship Stalking ................................................................................ 111
5.4.2.3 Intimate partner violence attitudes .................................................................. 112
5.4.2.4 Stalking attitudes ............................................................................................. 112
5.4.2.5 General antisocial attitudes ............................................................................. 112
5.4.2.6 General entitlement ........................................................................................ 112
5.4.2.7 Relational entitlement ..................................................................................... 113
5.4.2.8 Impression management .................................................................................. 113
5.4.3 Procedure ................................................................................................................. 113
5.5 Analyses ....................................................................................................................... 113
5.6 Results ......................................................................................................................... 115
5.6.1 Descriptive statistics ............................................................................................. 115
5.6.2 Univariate relationships with relationship aggression ............................................. 115
5.6.3 IPV perpetration severity ....................................................................................... 116
5.6.4 Post-relationship stalking perpetration .................................................................. 119
5.7 Discussion ..................................................................................................................... 120
5.7.1 The role of general and specific aggression-supportive cognition in relationship aggression. .............................................................................................................. 120
5.7.2 The role of relationship cognition in relationship aggression .................................. 121
5.7.3 The role of victimization ....................................................................................... 122
5.7.4 Implications .......................................................................................................... 122
5.7.5 Limitations ............................................................................................................. 123
5.8 Conclusion .................................................................................................................. 124
5.9 References .................................................................................................................. 124

Chapter 5: Cognition in IPV and PRS
5.2 Abstract

Theoretical models suggest that general antisocial and aggressive cognition is implicated in partner abuse, in addition to cognition concerning relationships. However, the roles of these various types of cognitive content in predicting relationship aggression have not yet been tested in a gender-inclusive sample. This paper addresses this gap in the literature by investigating the role of general antisocial attitudes, intimate partner violence- (IPV) and stalking-supportive attitudes, and entitlement in explaining self-reported IPV and post-relationship stalking (PRS) perpetration. Associations between predictor variables and IPV and PRS varied between men and women ($n = 913, 627$ women). Controlling for impression management and victimization, male IPV and PRS were predicted by general violence-supportive attitudes and relationship entitlement. In contrast, IPV-supportive attitudes predicted female-perpetrated PRS and stalking-supportive attitudes and relationship entitlement predicted female-perpetrated IPV. The role of victimization in perpetration, implications of the findings, and future directions are discussed.

**Keywords:** intimate partner violence, stalking, aggressive cognition, antisocial cognition, entitlement
5.3 Introduction

The role of cognition in intimate partner violence (IPV) has been studied relatively infrequently when compared to cognition involved in other violent offending and sexual offending (Gilchrist, 2009a, 2009b). Similarly, the role of cognition in post-relationship stalking perpetration has yet to be theorized or explored in any comprehensive way (Cooper, 2015; McKeon, McEwan, & Luebbers, 2014). This is a significant gap in the literature as antisocial and violence-supportive cognition is commonly viewed as a risk marker for other types of aggressive, antisocial, and criminal behavior (Anderson & Bushman, 2002; Andrews & Bonta, 2010). This paper addresses this gap by investigating the role of antisocial cognition, aggression-supportive cognition, and problematic relationship cognition in post-relationship stalking (PRS) and intimate partner violence (IPV) perpetration.

In this paper, IPV is defined as psychologically, physically, and sexually aggressive behavior against a current intimate partner (Strauss, Hamby, Boney-McCoy, & Sugarman, 1996). Post-relationship stalking (PRS) may be defined as a pattern of targeted, repeated, and unwanted intrusive acts that can be reasonably expected to cause apprehension, distress, or fear in the victim, which occurs after a romantic relationship has dissolved (McEwan, Shea, Nazarewicz, & Senkans, in press; Mullen, Pathé, & Purcell, 2009). This context is present in between 40-50% of known stalking cases (Spitzberg, Cupach, & Ciceraro, 2010). In this paper, we use the term relationship aggression when IPV and PRS are discussed together.

5.3.1 Cognition associated with relationship aggression. A wide range of cognitive content seems to be implicated in relationship aggression. Gilchrist (2009a) stated that general antisocial cognition, cognitions supportive of relationship aggression, cognitions regarding femininity and masculinity, and relationship-specific cognition (e.g., exaggerated relationship expectations) each appear to play a role. Langhinrichsen-Rohling (2010) also pointed to the influence of cultural norms regarding gender, violence, and relationships on an individual’s propensity to engage in relationship aggression. While all of these constructs likely contribute to knowledge structures implicated in IPV and PRS (Senkans, McEwan, & Ogloff, Chapter 3, this thesis), much of the literature to date has focused on gender-related cognition. This study seeks to expand this focus to examine the roles of general antisocial cognition, cognition supportive of relationship aggression, and interpersonal and relationship entitlement, in perpetration of relationship aggression.

5.3.2 Cognition about general violence and antisociality. The broader construct of antisocial cognition encompasses a diverse variety of constructs such as permissive attitudes...
towards violence, a sense of entitlement, antisocial intent, and a pro-criminal identity (Andrews & Bonta, 2010; Mills, Kroner, & Forth, 2002). While all aspects of antisocial cognition are implicated in offending, the strongest empirical evidence exists for the role of permissive attitudes towards violence in violent offending. For example, Gilbert, Daffern, Talevski, and Ogloff (2013) found that attitudes supportive of violence and aggressive script rehearsal were specifically associated with aggressive behaviour in an offender sample.

Surprisingly little research has examined the role of general antisocial cognition, including general violence-supportive attitudes (Andrews & Bonta, 2010; Mills et al., 2002), in IPV. Nevertheless, some authors have suggested that general attitudes and beliefs normalizing violence may also be implicated in partner abuse (Gilchrist, 2009b; Pornari, Dixon, & Humphreys, 2013). The current study will investigate the role of self-reported general antisocial attitudes (i.e., violence, entitlement, and antisocial intent; Mills et al., 2002) in a gender-inclusive sample of IPV and PRS perpetrators.

5.3.3 Cognition about intimate partner violence and stalking. A larger body of research supports the role of relationship-specific violence-supportive cognition in relationship aggression. A systematic review conducted by Capaldi, Knoble, Shortt, and Kim (2012) concluded that attitudes condoning of IPV were low to moderate predictors of IPV regardless of the gender of those holding them (see also Stith, Smith, Penn, Ward, & Tritt, 2004; Sugarman & Frankel, 1996, for results in male perpetrators). Thompson, Dennison, and Stewart’s (2012) study showed some relationship between IPV-supportive cognition and PRS violence in women, but not in men.

The idea that certain knowledge structures such as stalking stereotypes, stalking myths, rationalizations, and minimizations serve as justification for stalking behavior was raised early in the literature on stalking and unwanted pursuit (e.g., Cupach, Spitzberg, & Carson, 2000; Spitzberg & Cadiz, 2002). While some studies find that such cognition influences how people perceive stalking cases (Yanowitz, 2006), very few studies have linked the endorsement of stalking attitudes and actually engaging in stalking behavior.

In the early 2000’s, McKeon (2009) developed a self-report Stalking-Related Attitudes Questionnaire (SRAQ). The questionnaire had three factors encompassing items minimizing the seriousness of stalking, misrepresenting stalking as romantic, and assigning blame to the stalking victim. Participants who had higher scores on the SRAQ were significantly less likely to render a guilty verdict in a hypothetical stalking scenario (McKeon et al., 2014). Using a revised, gender-inclusive version of the scale, a study found that stalking perpetrators achieved
significantly higher mean rank on the total score as well as all subscales, with moderate effect sizes (Cooper, 2015). A study by Fox, Nobles, and Akers (2011) showed that social norms permitting or excusing stalking behavior were implicated in stalking perpetration in a US undergraduate sample \( n = 2,766 \). However, the study used only a one-item measures to ascertain stalking attitudes. More studies need to test the link between pro-stalking attitudes and actually engaging in stalking (Cooper, 2015; McKeon et al., 2014) and or other types of relationship violence, such as IPV.

5.3.4 Maladaptive relationship schemas. While hypothesizing a link between general and specific aggression-supportive cognition and IPV and PRS perpetration makes considerable sense, these kinds of knowledge structures may not be the only kinds of cognition relevant to relationship aggression (Senkans et al., Chapter 3, this thesis). The relational context in which these behaviors occur means that what and how perpetrators think about romantic relationships and romantic courtship is also likely to be integral to relationship aggression (Foran & Slep, 2007; Gilchrist, 2009a, 2009b; Senkans et al., Chapter 3, this thesis).

There is some evidence to support such a hypothesis. A number of studies implicate insecure attachment in IPV and PRS (Capaldi et al., 2012; MacKenzie, Mullen, Ogloff, McEwan, & James, 2008). This provides indirect support for the role of unhelpful ideas about romantic partners and romantic relationships in relationship aggression, given that such cognition is hallmark of insecure attachment (Mikulincer & Shaver, 2007). Some studies directly investigate the role of relationship cognition in IPV. For example, a study found that unrealistic standards toward relationship partners predicted severe physical assault and psychological aggression in both men and women, beyond the effects of aggressive cognition (Foran & Slep, 2007). However, the construct used in their study was relatively narrow in focus, including only expectations regarding compliance during disagreements, mindreading, and household responsibilities (Foran & Slep, 2007).

A more inclusive construct that encompasses the cognitive aspect of unrealistic expectations toward others is entitlement. Both IPV and PRS offenders have been characterized as possessing a pervasive sense of entitlement (e.g., Gilchrist, 2009b; Mullen et al., 2009; Pornari et al., 2013). Although some studies suggest that entitlement is damaging to a person’s interpersonal relationships (e.g., Campbell, Bonacci, Shelton, Exline, & Bushman, 2004), the role of entitlement in IPV and PRS remains largely untested. Especially, relationship-specific entitlement is proposed to play a role in IPV and PRS (Tolmacz & Mikulincer, 2011). Relationship entitlement is “the extent to which an individual expects [that] his or her relational wishes,
needs, and fantasies should be fulfilled by a romantic partner.” (p. 77). On a behavioral level, reactions to real or perceived violation of entitled relationship expectations may include aggression and violence (Rasmussen, 2015; Tolmacz & Mikulincer, 2011). This hypothesis is consistent with published anecdotal accounts of the circumstances and emotional responses that can trigger PRS (Mullen et al., 2009) and IPV (Gilchrist, 2009a, 2009b), but the possible role of relationship-specific or general entitlement in relationship aggression has not been tested empirically.

However, qualitative studies suggest that male entitlement plays a role in IPV. For example, in interviews of six Scottish prisoners whose index or previous offences included domestic assault, Weldon and Gilchrist (2012) found a theme titled “entitlement/women are objects”. This theme encompassed the participants’ patriarchal understanding society in general and their romantic relationships in particular. Interestingly, Tolmacz and Mikulincer (2011) found that relationship entitlement was significantly higher among women than men in their sample.

5.3.5 Victimization. While perpetrator cognition is clearly an important factor in relationship aggression, person-oriented social-cognitive theories have been criticized for over-estimating the role of cognition and other individual differences in behavior. Focusing on these individual factors runs the risk of failing to acknowledge the importance of the context in which a behavior occurs. This is particularly problematic when investigating relationship aggression as behavioral outcomes are often interdependent for aggressors and victims (Card, 2011). Based on available studies, the occurrence of bi-directional IPV (that is, mutual IPV that is perpetrated by both partners in the relationship) is estimated at between 50-70% across community, student, and forensic/clinical samples (Langhinrichsen-Rohling, Misra, Selwyn, & Rohling, 2012). While bidirectionality has rarely been discussed in stalking research (McEwan et al., in press), some research indicates that there is also a link between stalking victimization and perpetration (e.g., Langhinrichsen-Rohling, 2006).

5.3.6 Aims of the current study. There are significant gaps in the literature on cognition associated with IPV and PRS perpetration. The role of general antisocial cognition has not been tested systematically in IPV and PRS. Similarly, the relationship between relationship-specific aggressive cognition has been tested in IPV, but remains unstudied in PRS and understudied amongst female IPV perpetrators. In addition, while both IPV and PRS offenders have been anecdotally described as entitled, this has not yet been tested in empirical studies. There is also an important question about the explanatory value of these kinds of individual
differences, given the very strong predictive role of contextual factors such as victimization in predicting IPV perpetration (see above).

Finally, this study also used a gender-inclusive sample but analyzed each gender separately based on previous research indicating that social-cognitive factors associated with relationship aggression are not gender-neutral. For instance, some evidence suggests that the link between general antisocial cognition and behavior may be stronger for men than women (e.g., Bennett, Farrington, & Huesmann, 2005). In contrast, the available evidence suggests that attitudes toward specific relationship aggression may play a more decisive role in women’s relationship aggression (Thompson, Dennison, & Stewart, 2012). The argument against gender-neutrality is also supported by the finding that violence specialization seems more common among female than male IPV perpetrators (e.g., Bates, Graham-Kevan, & Archer, 2014). Thus, gender-sensitive modelling may be required to meaningfully study the link between relationship entitlement, specific attitudes, and general antisocial cognition and IPV and PRS.

Given these gaps in existing knowledge, a number of exploratory research questions were addressed in this study. The first aim of the study was to test whether various kinds of antisocial attitudes (violence-supportive attitudes, antisocial entitlement and antisocial intent) predict IPV and PRS perpetration. The second aim was to test if gender-neutral permissive attitudes toward relationship violence predicted IPV perpetration and PRS perpetration. The third aim was to test if stalking-specific attitudes predict IPV and PRS perpetration. The fourth aim was to test if relationship cognition variables (general interpersonal and relationship-specific entitlement) can contribute to a model predicting IPV and PRS perpetration beyond general and specific antisocial cognition. The fifth aim was to test if IPV victimization severity and stalking victimization predict their respective types of perpetration; and, if cognitive variables (see research aims 1 – 4) contribute to the model after victimization has been accounted for.

It was hypothesized that i) men will score significantly higher on measures of antisocial, IPV, and stalking attitudes, ii) women will score higher on relationship entitlement, iii) general violence-supportive attitudes will predict IPV and stalking, iv) IPV attitudes will predict IPV, v) stalking attitudes will predict PRS, vi) relationship entitlement will be more predictive of IPV and PRS than general entitlement, vii) effects of cognitive predictors will remain significant once impression management and victimization experiences has been controlled for.

Chapter 5: Cognition in IPV and PRS
5.4 Method

5.4.1 Sample. Course credits were used to compensate 1,000 undergraduate students for participating in the study. This study was part of a larger research project (Senkans, 2016). In the total sample, 83.4% identified as exclusively \( n = 834 \) and 8% \( n = 80 \) as predominantly heterosexual, 3.5% \( n = 35 \) as bisexual, and 3.5% \( n = 35 \) as exclusively or predominantly homosexual. Sixteen individuals (1.6%) did not want to specify their sexual orientation or ticked “other”. Those who reported sexualities other than exclusively or predominantly heterosexual were excluded from analyses given the gender related research questions and another participant was excluded as they did not specify their gender. The final sample comprised 913 participants aged between 18 and 68 years \( (M = 31.01, SD = 10.32) \), of whom 68.7% \( n = 627 \) were female.

Eighty-six percent \( n = 785 \) of participants considered themselves Australian (9 identifying themselves as Aboriginal Australian and 177 identifying a combined ethnicity such as Chinese Australian, Italian Australian, or Indian Australian); 4.4% \( n = 40 \) various European ethnicities; 2.3% \( n = 21 \) various Asian ethnicities; 0.4% \( n = 4 \) a Southern or Eastern African ethnicity; 0.8% \( n = 7 \) various North African or Middle Eastern ethnicities; 0.4% \( n = 4 \) New Zealander or Maori; 0.4% \( n = 4 \) a North American ethnicity; and, 1.4% \( n = 13 \) a mixed but not Australian ethnicity. Thirty-five participants (3.8%) did not specify. Most participants had completed secondary school \( n = 868, 95.1\% \), 44.5% had already completed a diploma or certificate, 15.3% another Bachelor degree and 3.8% had postgraduate qualifications. The median income was AUD$30,000 – $40,000 \( (Q_1 = \$10,000 – \$20,000; Q_3 = \$60,000 – \$80,000) \), less than the average Australian income of approx. $60,000 (Australian Bureau of Statistics, 2016). Ninety-one percent \( n = 832 \) of participants spoke English as their first language. Sixty-eight percent \( n = 620 \) were in a relationship at the time of participating. The majority \( n = 829; 90.8\% \) had experienced the breakup of a romantic relationship in the past.

5.4.2 Measures and variable definitions

5.4.2.1 Intimate partner violence. Intimate partner violence perpetration and victimization was assessed using the full Revised Conflict Tactics Scale (CTS-2; Strauss et al., 1996). The total Cronbach’s \( \alpha \) was .79 for perpetration and .95 for victimization in our study. Participants answered perpetration and victimization items on a frequency scale ranging from Never, Once, Twice, 3-5 times, 6-10 times, 11-20 times, and More than 20 times. Participants were instructed to answer the CTS-2 based on their most conflicted relationship. To take into account the prevalence, frequency, and severity of IPV acts, we computed an ordinal IPV
severity variable (described in Table 5.1). We computed separate perpetration and victimization variables for all IPV variables using the same criteria, applying to victimization and perpetration items, respectively.

Table 5.1 Coding Rules for the Ordinal IPV Severity Variable Created Using Responses on the CTS-2.

<table>
<thead>
<tr>
<th>IPV Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPV severity 0</td>
<td>None – Fewer than 50 instances of minor psychological aggression, no other abuse.</td>
</tr>
<tr>
<td>1</td>
<td>Low – More than 50 instances of minor psychological aggression, and/or fewer than 10 instances of severe psychological aggression, but no other abuse</td>
</tr>
<tr>
<td>2</td>
<td>Moderate (Mod) – Between 1 and 10 instances of minor forms of physical assault, and/or sexual coercion, and/or injury and/or 10 or more instances of severe psychological aggression</td>
</tr>
<tr>
<td>3</td>
<td>High – Any instance of severe forms of physical assault, sexual coercion, and/or injury, and/or 10 or more instances of minor forms of physical assault, sexual coercion, and/or injury and/or more than 50 instances of severe psychological aggression</td>
</tr>
</tbody>
</table>

5.4.2.2 Post-relationship Stalking. PRS perpetration and victimization was measured using a scale analogous to the CTS-2, the Stalking Tactics Scale (STS) developed by the authors. The STS measures the frequency with which 17 different behaviors that are commonly observed in stalking situations occurred during a period of unwanted pursuit. The behaviors cover Spitzberg and Cupach’s (2007) eight broad categories of pursuit behavior (hyper-intimacy, mediated and interactional contact, surveillance, invasion, harassment, threats, property damage, and aggression). Participants were instructed to focus on a time when they had struggled to let go of a relationship and had continued to have contact with or pursue an ex-partner, despite knowing that their behavior was unwanted. They also identified times when an ex-partner had done this to them, although it could be a different partner than the one they targeted. Participants responded to each item on a frequency scale indicating that the behavior occurred Never, Once, Twice, 3-5 times, 6-10 times, 11-20 times, or More than 20 times during the period of unwanted contact. Participants were also asked whether the unwanted contact persisted for more than a fortnight. Cronbach’s alpha of the full STS was \( \alpha = .89 \) for victimization and \( \alpha = .71 \) for perpetration.

We used empirically derived criteria to classify participants into stalkers and non-stalkers and into stalking victims and non-victims. Participants who reported perpetrating or experiencing more than 5 intrusions (Thompson & Dennison, 2008) over a time frame of longer
than two weeks (Purcell, Pathé, & Mullen, 2004) were classified as stalkers or stalking victims, respectively. The definition of stalking in this study was a behavioral one in that it did not account for victim fear. This legal criterion is difficult to establish in self-reporting perpetrators (Johnson & Thompson, 2016; Mullen et al., 2009).

5.4.2.3 Intimate partner violence attitudes. The Intimate Partner Violence Attitude Scale (IPVAS) was used to measure attitudes supportive of IPV (Smith, Thompson, Tomaka, & Buchanan, 2005; modified by Fincham, Cui, Braithwaite, & Pasley, 2008). Participants endorsed 20 items on a 5-point Likert-type scale, ranging from strongly disagree to strongly agree. Cronbach’s α of the total score was not reported by Smith et al. (2005) and Fincham et al. (2008), who focused on subscale analyses in their studies. This study uses the IPVAS total score. In the current sample, IPVAS internal consistency was α = .75.

5.4.2.4 Stalking attitudes. We used the revised Stalking Attitude Questionnaire (SAQ) to measure attitudes supportive of stalking (Cooper, 2015). The 22-item scale showed excellent reliability (α = .91) in the current sample and has previously been shown to consist of three closely related factors (Cooper, 2015). The total scale was used in all analyses.

5.4.2.5 General antisocial attitudes. Mills et al.’s (2002) Measures of Criminal Attitudes and Associates (MCAA) was used to measure general antisocial attitudes of Violence (MCA-V), Entitlement (MCA-E), and Antisocial Intent (MCA-AI). The Associates subscale was not used in this study. The MCAA was developed in a sample of Canadian Federal prisoners serving prison sentences of two years or more. In the development sample the MCAA and its subscales showed good to acceptable internal consistency (Total scale: α = .90; Violence: α = .80; Entitlement: α = .63; and Antisocial Intent: α = .84) and other psychometric properties. In the current sample, we also found good internal consistency (Violence: α = .78; Entitlement: α = .69; and Antisocial Intent: α = .74) and small to moderate inter-correlations between the scales. The response format was binary (agree vs. disagree).

5.4.2.6 General entitlement. General entitlement was measured using the Psychological Entitlement Scale (PES) by Campbell et al. (2004). The PES is a 9-item measure that assesses entitlement as “a stable and pervasive sense that one deserves more and is entitled to more than others” that is experienced across situations (pp.30-31). Items are endorsed on a 7-point Likert-type scale from strong disagreement to strong agreement. The PES has a one-factor structure, is internally consistent (α = .85), test–retest reliable ($r_{tt}$ = .72), and valid (Campbell et al., 2004). In the current sample internal consistency was α = .84.
5.4.2.7 **Relational entitlement.** Relational entitlement was measured with the Sense of Relational Entitlement Scale (SRES) by Tolmacz & Mikulincer (2011). We reversed items belonging to a Restricted Entitlement factor to compute a total Relational Entitlement score adding up all 33 items. The total scale was internally consistent in the development sample ($\alpha = .86$, Tolmacz & Mikulincer, 2011) and the current sample ($\alpha = .90$). Test-retest reliability has not yet been established. In this study, participants were asked to rate on a Likert-type 5-point scale the extent to which the items were true for how they behave in a relationship, ranging from *not at all true* to *very much true*.

5.4.2.8 **Impression management.** We used the Impression Management (IM) subscale of the Balanced Inventory of Desirable Responding (BIDR-6) by Paulhus (1991). The IM scale consists of 20 items that test the conscious tendency to portray oneself in a socially desirable light (e.g., “I always obey laws even when it’s unlikely I’ll get caught”). Participants answer on a 7-point Likert-type scale ranging from *not true* to *very true*. Previously reported Cronbach’s alpha values range from .75 to .86 for the IM scale and it has a test-retest reliability of .65 over a 5 week period. It shows strong correlations with other measures of socially desirable responding (Paulhus, 1991). In the current sample, Cronbach’s alpha was .81. The IM total score was used as a continuous control variable in regression models.

5.4.3 **Procedure.** After providing informed consent and demographic information, participants completed eight questionnaires in counter-balanced order in an online survey using the platform SurveyMonkey™. In addition, items were randomized within questionnaires. This study uses six of those questionnaires. Participants then completed the CTS-2 and STS measuring IPV and post-relationship stalking perpetration and victimization. Upon completion of the survey, participants were thanked and could access debriefing information regarding support services on an external website and received an additional debriefing sheet via email that explained the theoretical background, variables, and the purpose of the study. This study protocol was approved by the Swinburne University Human Research Ethics Committee.

5.5 **Analyses**

All analyses were conducted using SPSS v23 (IBM, 2015). All predictor variables were dichotomized using median splits (0: $x \leq$ median; 1: $x >$ median) to increase analytic parsimony and ease interpretation and communication of effects in logistic regression models (Iacobucci, Posavac, Kardes, Schneider, & Popovich, 2015a; Iacobucci, Posavac, Kardes, Schneider, & Popovich, 2015b)

---

*Used with permission.*

Chapter 5: Cognition in IPV and PRS
Popovich, 2015b). To identify candidate predictors in univariate analyses of binary variables, the \( \chi^2 \) statistic was used with odds ratio (OR) as the measure of effect size. Odd ratios above or equal to 2.0 have been described as indicating a practically significant (small) effect, \( OR = 3 \) moderate effect, and \( OR = 4 \) and larger indicate strong effects (Ferguson, 2009). To compare mean rank, Mann-Whitney \( U \) analyses were employed for continuous variables with the probabilistic effect size \( \Theta \). A small effect size is \( \Theta = .56 \), a moderate effect is \( \Theta = .64 \), and a strong effect is \( \Theta = .70 \) (Acion, Peterson, Temple, & Arndt, 2006). J. D. W. Hosmer, Lemeshow, and Sturdivant (2013) recommend including all predictors that have a \( p \)-value of up to .25 along with all other clinically relevant variables into a preliminary model. We included predictors with univariate significance levels of \( \alpha = .10 \).

Binary logistic regression (LR) was used to identify which of the contextual and cognitive characteristics were associated with PRS in parsimonious main effects models. Variables that were significant in univariate analyses were added using hierarchical block entry. Control variables (IM) were entered first, contextual variables (e.g., victimization) were entered second, then general antisocial attitudes, specific aggressive attitudes, and then relationship cognition variables. We originally planned to use ordinal regression to test relationship to IPV severity, but there were assumption violations (Harrell, 2015; Hosmer, Lemeshow, & Sturdivant, 2013) so IPV severity variable was dichotomized into none/low vs. moderate/high and binary LR used.

Collinearity between explanatory variables was examined using the collinearity diagnostic variance inflation factors (VIFs) and tolerance statistics. A VIF = 1 indicates orthogonal predictors. Thus, values of close to one are desired, while values above 10 indicate collinearity. Tolerance statistics lower than .01 indicate collinearity (Belsley, Kuh, & Welsch, 1980; Field, 2009; Tabachnick & Fidell, 2013). No collinearity was detected. Explanatory variables were excluded based on the Wald statistic (Field, 2009; Hosmer et al., 2013; Tabachnick & Fidell, 2013). Using the Wald statistic and the likelihood ratio test, models were simplified, fitted and re-fitted, by means of an iterative process. Estimated coefficients of predictors and their \( \Delta \beta \)'s were examined to prevent the exclusion of important predictors based on statistical significance alone (J. D. W. Hosmer et al., 2013).

Goodness of model fit was assessed using the Hosmer and Lemeshow test (D. W. Hosmer & Lemeshow, 1980) and Nagelkerke \( R^2 \) was used as a measure of Pseudo-\( R^2 \). Nagelkerke \( R^2 \) is not equivalent to variance explained as in linear regression models (Harrell, 2015; J. D. W. Hosmer et al., 2013), so needs to be interpreted with caution. Linearity in the logit of continuous predictors (IM) was tested for full and final models using the procedure.
recommended by Field (2009). This assumption was met for all models.

5.6 Results

Age, education level, income, and ethnicity (Any Australian vs. Other) were unrelated to both outcome variables. Native language was unrelated to IPV severity. Individuals who had English as a first language were significantly more likely to be classified as stalkers ($\chi^2 = 4.10, p = .043, \text{OR} = 2.15, \text{CI} 1.00, 4.58$). Due to the very small effect size and the small group of non-English native speakers, this was not further considered in the main analyses.

5.6.1 Descriptive statistics. To test if gender-sensitive modelling was warranted, we tested hypothesized gender differences in predictor variables, with results shown in Table 1. As anticipated, men achieved higher mean rank on MCA-V ($U = 82042.00, p = .035, \Theta = .54$), MCA-MCA-AI ($U = 57431.00, p = .000, \Theta = .68$), IPVAS ($U = 70949.00, p = .000, \Theta = .60$), and SAQ ($U = 74431.50, p = .000, \Theta = .58$). As expected, women achieved higher mean rank on SRES ($U = 75649.50, p = .000, \Theta = .58$). There were no gender differences on MCA-E or PES. However, women scored significantly higher than men on IM ($U = 75140.50, p = .000, \Theta = .58$). Due to gender differences on most of the variables, all multivariate analyses were conducted separately by gender. Participants were classified as low on the respective variable if their total score was on or under the gender-specific median and high if their score was over the gender-specific median.

5.6.2 Univariate relationships with relationship aggression. Table 5.3 presents univariate associations between each predictor variable and PRS and IPV, by gender. Patterns of associations between nominal study variables and PRS and IPV clearly differed across gender, with the effect sizes associated with these differences generally being larger in the male subsample. Thirty-four participants (25 women, 9 men) reported on an on-off relationship or did not want to report the relationship duration. Female participants who fell in this category had to be excluded from multivariate analyses of IPV as relationship duration was related to IPV severity on a univariate level. Women who reported mod/high IPV severity reported on significantly longer relationships than women who reported no or low severity IPV ($U = 40065.50, p = .045, \Theta = .54$). This relationship was insignificant in men. Impression management was significantly higher among perpetrators of mod/high severity IPV as compared to no/low IPV in both women ($U = 38581.00, p = .000, \Theta = .59$) and men ($U = 8085.00, p = .002, \Theta = .60$). Impression management was also significantly higher in male ($U = 4712.00, p = .003, \Theta = .62$) and female ($U = 21747.00, p = .008, \Theta = .58$) stalkers compared to male and female non-stalkers, respectively.
### Table 5.2 Descriptive Statistics of Cognitive Variables by Gender.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Md</th>
<th>Q₁</th>
<th>Q₃</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men (n = 286)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measures of Criminal Attitudes Violence Subscale</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Measures of Criminal Attitudes Entitlement Subscale</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Measures of Criminal Attitudes Antisocial Intent Subscale</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Intimate Partner Violence Attitude Scale</td>
<td>20</td>
<td>15</td>
<td>24</td>
</tr>
<tr>
<td>Stalking Attitude Questionnaire</td>
<td>29</td>
<td>18</td>
<td>39</td>
</tr>
<tr>
<td>Psychological Entitlement Scale</td>
<td>21</td>
<td>14</td>
<td>27</td>
</tr>
<tr>
<td>Sense of Relational Entitlement Scale</td>
<td>53</td>
<td>42</td>
<td>65.25</td>
</tr>
<tr>
<td><strong>Women (n = 627)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measures of Criminal Attitudes Violence Subscale</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Measures of Criminal Attitudes Entitlement Subscale</td>
<td>4</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Measures of Criminal Attitudes Antisocial Intent Subscale</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Intimate Partner Violence Attitude Scale</td>
<td>17</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>Stalking Attitude Questionnaire</td>
<td>23</td>
<td>13</td>
<td>34</td>
</tr>
<tr>
<td>Psychological Entitlement Scale</td>
<td>22</td>
<td>15</td>
<td>28</td>
</tr>
<tr>
<td>Sense of Relational Entitlement Scale</td>
<td>58</td>
<td>46</td>
<td>71</td>
</tr>
</tbody>
</table>

#### 5.6.3 IPV perpetration severity. In men, all predictors except relationship duration were significant at the univariate level, with effect sizes ranging from small to large. Predictors were entered into a hierarchical LR model using the dichotomized IPV variable (none/low vs. mod/high) as the dependent variable. IM was entered in Block 1, IPV victimization in Block 2, general antisocial cognition (MCA subscales) in Block 3, relationship specific aggression cognition (IPVAS and SAQ) in Block 4, and relationship cognition in Block 5 (PES and SRES).

In women, all predictors except MCA-V and PES were significant at the univariate level. In the female-specific model, IM was entered in Block 1, and relationship duration in Block 2, IPV victimization in Block 3, general antisocial cognition (MCA- E and MCA-AI) in Block 4, relationship specific aggression cognition (IPVAS and SAQ) in Block 5, and relationship cognition in Block 6 (SRES). Predictors which were insignificant in the multivariate model were iteratively deleted. The final main effects models are shown in Table 4. Both models showed good fit (Men: $\chi^2 (5) = .31, p = .998$, Nagelkerke $R^2 = .454$; Women: $\chi^2 (8) = 13.20, p = .105$, Nagelkerke $R^2 = .382$).
Table 5.3 Univariate Relationships of Cognitive Variables with Relationship Aggression.

<table>
<thead>
<tr>
<th>Variable</th>
<th>IPV none/low</th>
<th>IPV mod/high</th>
<th>( \chi^2 ) (1)</th>
<th>( p )</th>
<th>OR</th>
<th>Stalking absent</th>
<th>Stalking present</th>
<th>( \chi^2 ) (1)</th>
<th>( p )</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCA-V (n, % high)</td>
<td>37, 24.7</td>
<td>70, 51.5</td>
<td>21.89</td>
<td>.000</td>
<td>3.24</td>
<td>64, 32.3</td>
<td>34, 54.0</td>
<td>9.55</td>
<td>.003</td>
<td>2.46</td>
</tr>
<tr>
<td>MCA-E (n, % high)</td>
<td>52, 34.7</td>
<td>78, 57.4</td>
<td>14.81</td>
<td>.000</td>
<td>2.53</td>
<td>91, 46.0</td>
<td>32, 50.8</td>
<td>.45</td>
<td>.563</td>
<td>1.21</td>
</tr>
<tr>
<td>MCA-AI (n, % high)</td>
<td>53, 35.3</td>
<td>77, 56.6</td>
<td>13.03</td>
<td>.000</td>
<td>2.39</td>
<td>89, 44.9</td>
<td>35, 55.6</td>
<td>2.16</td>
<td>.150</td>
<td>1.53</td>
</tr>
<tr>
<td>IPVAS (n, % high)</td>
<td>53, 35.3</td>
<td>72, 52.9</td>
<td>9.00</td>
<td>.003</td>
<td>2.06</td>
<td>82, 41.4</td>
<td>30, 47.6</td>
<td>.75</td>
<td>.465</td>
<td>1.29</td>
</tr>
<tr>
<td>SAQ (n, % high)</td>
<td>60, 40.0</td>
<td>74, 54.4</td>
<td>16.88</td>
<td>.015</td>
<td>1.79</td>
<td>83, 41.9</td>
<td>38, 60.3</td>
<td>6.51</td>
<td>.013</td>
<td>2.11</td>
</tr>
<tr>
<td>PES (n, % high)</td>
<td>63, 42.0</td>
<td>74, 54.4</td>
<td>4.40</td>
<td>.036</td>
<td>1.65</td>
<td>95, 48.0</td>
<td>31, 49.2</td>
<td>.03</td>
<td>.886</td>
<td>1.05</td>
</tr>
<tr>
<td>SRES (n, % high)</td>
<td>53, 35.3</td>
<td>86, 63.2</td>
<td>22.23</td>
<td>.000</td>
<td>3.15</td>
<td>83, 41.9</td>
<td>45, 71.4</td>
<td>16.65</td>
<td>.000</td>
<td>3.46</td>
</tr>
<tr>
<td>IPV Victimization (n, % present)</td>
<td>17, 13.9</td>
<td>119, 72.6</td>
<td>96.41</td>
<td>.000</td>
<td>16.33</td>
<td>47, 23.7</td>
<td>39, 61.9</td>
<td>31.51</td>
<td>.000</td>
<td>5.22</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCA-V (n, % high)</td>
<td>64, 25.1</td>
<td>100, 26.9</td>
<td>.25</td>
<td>.544</td>
<td>1.10</td>
<td>103, 22.8</td>
<td>36, 31.6</td>
<td>3.80</td>
<td>.067</td>
<td>1.56</td>
</tr>
<tr>
<td>MCA-E (n, % high)</td>
<td>101, 39.6</td>
<td>178, 47.8</td>
<td>4.16</td>
<td>.050</td>
<td>1.40</td>
<td>198, 43.8</td>
<td>46, 40.4</td>
<td>.44</td>
<td>.527</td>
<td>.87</td>
</tr>
<tr>
<td>MCA-AI (n, % high)</td>
<td>103, 40.4</td>
<td>196, 52.7</td>
<td>9.17</td>
<td>.003</td>
<td>1.64</td>
<td>208, 46.0</td>
<td>65, 57.0</td>
<td>4.41</td>
<td>.037</td>
<td>1.56</td>
</tr>
<tr>
<td>IPVAS (n, % high)</td>
<td>104, 40.8</td>
<td>203, 54.6</td>
<td>11.51</td>
<td>.001</td>
<td>1.74</td>
<td>207, 45.8</td>
<td>65, 57.0</td>
<td>4.59</td>
<td>.036</td>
<td>1.57</td>
</tr>
<tr>
<td>SAQ (n, % high)</td>
<td>97, 38.0</td>
<td>202, 54.3</td>
<td>16.04</td>
<td>.000</td>
<td>1.94</td>
<td>205, 45.4</td>
<td>57, 50.0</td>
<td>.79</td>
<td>.401</td>
<td>1.21</td>
</tr>
<tr>
<td>PES (n, % high)</td>
<td>113, 44.3</td>
<td>189, 50.8</td>
<td>2.56</td>
<td>.122</td>
<td>1.30</td>
<td>224, 49.6</td>
<td>56, 49.1</td>
<td>.93</td>
<td>.934</td>
<td>.98</td>
</tr>
<tr>
<td>SRES (n, % high)</td>
<td>90, 35.3</td>
<td>208, 55.9</td>
<td>25.79</td>
<td>.000</td>
<td>2.33</td>
<td>216, 47.8</td>
<td>60, 52.6</td>
<td>.35</td>
<td>.402</td>
<td>1.21</td>
</tr>
<tr>
<td>PRS Victimization (n, % present)</td>
<td>102, 40.0</td>
<td>327, 87.9</td>
<td>160.68</td>
<td>.000</td>
<td>10.90</td>
<td>236, 52.2</td>
<td>88, 77.2</td>
<td>23.21</td>
<td>.000</td>
<td>3.10</td>
</tr>
</tbody>
</table>

Note: MCA-V = Measures of Criminal Attitudes Violence subscale; MCA-E = Entitlement Subscale; MCA-AI = Antisocial Intent Subscale; IPVAS = Intimate Partner Violence Attitude Scale; SAQ = Stalking Attitude Questionnaire; PES = Psychological Entitlement Scale; SRES = Sense of Relational Entitlement Scale; IM = Impression Management; Low = Lower or on median; High = Higher than median. Chi-Square test (and OR) used for dichotomous predictors. Mann-Whitney U (and \( \Theta \)) used for ordinal and continuous predictors.
Across gender, the strongest predictor of IPV perpetration was IPV victimization. Men who experienced mod/high severity IPV were more than 13 times as likely to also perpetrate mod/high IPV. In women, experiencing mod/high IPV severity victimization increased the odds of mod/high IPV perpetration ten-fold. Relationship-specific entitlement was also significantly related to male and female IPV, however the effect size was somewhat stronger in men. General violent attitudes were associated with male higher severity IPV (\( OR = 2.28 \)), while stalking-specific attitudes were associated with IPV severity in women (\( OR = 2.11 \)). Finally, relationship duration was related to IPV severity in women. Once a relationship had continued for at least six months, the greater the odds of mod/high IPV when compared to relationships lasting less than 3 months.

Table 5.4 Summary of Logistic Regression Analyses Predicting IPV Perpetration Severity (none/low vs. mod/high) by Gender.

<table>
<thead>
<tr>
<th>Block</th>
<th>Predictor</th>
<th>B</th>
<th>SE</th>
<th>OR</th>
<th>95% CI</th>
<th>Wald statistic</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Constant)</td>
<td>-.234</td>
<td>.31</td>
<td>55.84</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>IPV victimization</td>
<td>2.59</td>
<td>.32</td>
<td>13.32</td>
<td>[7.08, 25.04]</td>
<td>64.60</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>MCA-V</td>
<td>.82</td>
<td>.31</td>
<td>2.28</td>
<td>[1.23, 4.21]</td>
<td>6.91</td>
<td>.009</td>
</tr>
<tr>
<td>5</td>
<td>SRES</td>
<td>.70</td>
<td>.30</td>
<td>2.01</td>
<td>[1.11, 3.63]</td>
<td>5.37</td>
<td>.021</td>
</tr>
<tr>
<td></td>
<td>(Constant)</td>
<td>-.240</td>
<td>.69</td>
<td>12.26</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>IM</td>
<td>-.02</td>
<td>.01</td>
<td>.98</td>
<td>[.97, 1.00]</td>
<td>7.58</td>
<td>.006</td>
</tr>
<tr>
<td>2</td>
<td>Relationship Duration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Less than 3 months ( a )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 – 6 months</td>
<td>.77</td>
<td>.70</td>
<td>2.15</td>
<td>[.55, 8.45]</td>
<td>1.20</td>
<td>.273</td>
</tr>
<tr>
<td></td>
<td>6 months – 1 year</td>
<td>1.47</td>
<td>.62</td>
<td>4.33</td>
<td>[1.28, 14.66]</td>
<td>5.56</td>
<td>.018</td>
</tr>
<tr>
<td></td>
<td>1 – 2 years</td>
<td>2.12</td>
<td>.62</td>
<td>8.30</td>
<td>[2.45, 28.13]</td>
<td>11.53</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>2+ years</td>
<td>1.85</td>
<td>.57</td>
<td>6.33</td>
<td>[2.08, 19.32]</td>
<td>10.52</td>
<td>.001</td>
</tr>
<tr>
<td>5</td>
<td>SAQ</td>
<td>.74</td>
<td>.21</td>
<td>2.11</td>
<td>[1.39, 3.18]</td>
<td>12.51</td>
<td>.000</td>
</tr>
<tr>
<td>6</td>
<td>SRES</td>
<td>.57</td>
<td>.21</td>
<td>1.77</td>
<td>[1.18, 2.65]</td>
<td>7.65</td>
<td>.006</td>
</tr>
</tbody>
</table>

Note: IM = Impression Management; SAQ = Stalking Attitudes Questionnaire; SRES = Sense of Relational Entitlement Scale; OR, Odds ratio; CI, confidence interval.

\( a \) Reference category.
5.6.4 Post-relationship stalking perpetration. Eighty-four participants (25 men [8.7%], 59 [9.4%] women) had never experienced the breakup of a romantic relationship and thus were ineligible to complete the STS. Another two female participants had missing data on the STS and were also excluded from the following analyses, leaving a total sample of $n = 827$ (261 men, 568 women). Of this group, 177 participants (63 [24.1%] men, 114 [20.1%] women) reported perpetrating PRS.

In men, IM, victimization, MCA-V, SAQ, and SRES were significant at the univariate level (see Table 5.3). Impression management was entered first (Block 1), then stalking victimization was entered in Block 2, MCA-V in Block 3, offense-specific attitudes (SAQ) in Block 4, and relationship cognition variables in Block 5 (SRES). In women, IM, MCA-V, MCA-Al, IPVAS, and victimization were significant at the univariate level. IM was entered first (Block 1) into the multivariate model, then MCA-V and Al (Block 2), then IPVAS (Block 3). Predictors that were insignificant in the multivariate models were iteratively deleted. The final models are shown in Table 5 and exhibited good model fit (Men: $\chi^2 (5) = 5.23, p = .389$, Nagelkerke $R^2 = .253$; Women: $\chi^2 (8) = 11.20, p = .191$, Nagelkerke $R^2 = .101$).

Table 5.5 Summary of Logistic Regression Analyses Predicting PRS Perpetration Severity (none/low vs. mod/high) by Gender.

<table>
<thead>
<tr>
<th>Block</th>
<th>Predictor</th>
<th>B</th>
<th>SE</th>
<th>OR</th>
<th>95% CI</th>
<th>Wald statistic</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Constant)</td>
<td>-1.44</td>
<td>.39</td>
<td>65.05</td>
<td>.000</td>
<td>7.18</td>
<td>.007</td>
</tr>
<tr>
<td>2</td>
<td>Stalking Vic.</td>
<td>1.16</td>
<td>.32</td>
<td>5.00</td>
<td>[2.66, 9.42]</td>
<td>24.85</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>MCA-V</td>
<td>.74</td>
<td>.33</td>
<td>2.10</td>
<td>[1.10, 3.99]</td>
<td>5.08</td>
<td>.024</td>
</tr>
<tr>
<td>5</td>
<td>SRES</td>
<td>1.02</td>
<td>.34</td>
<td>2.77</td>
<td>[1.43, 5.37]</td>
<td>9.04</td>
<td>.003</td>
</tr>
</tbody>
</table>

Women

<table>
<thead>
<tr>
<th>Block</th>
<th>Predictor</th>
<th>B</th>
<th>SE</th>
<th>OR</th>
<th>95% CI</th>
<th>Wald statistic</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>(Constant)</td>
<td>-1.32</td>
<td>.46</td>
<td>8.27</td>
<td>.004</td>
<td>7.18</td>
<td>.007</td>
</tr>
<tr>
<td>1</td>
<td>IM</td>
<td>-.02</td>
<td>.01</td>
<td>.98</td>
<td>[.97, 1.00]</td>
<td>22.50</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>Stalking Vic.</td>
<td>1.16</td>
<td>.24</td>
<td>3.20</td>
<td>[1.98, 5.17]</td>
<td>22.50</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>IPVAS</td>
<td>.43</td>
<td>.22</td>
<td>1.54</td>
<td>[1.00, 2.37]</td>
<td>3.92</td>
<td>.048</td>
</tr>
</tbody>
</table>

Note. MCA-V = Measures of Criminal Attitudes Violence subscale; IM = Impression Management; SRES = Sense of Relational Entitlement Scale; OR, Odds ratio; CI, confidence interval.

The only variable that was associated with stalking in both genders was stalking victimization. Experiencing stalking victimization increased the odds of stalking perpetration.
five-fold in men and slightly more than three-fold in women (note that victimization was not necessarily by the target of the stalking perpetration). In men, high relationship entitlement (OR = 2.77) and high violence-supportive attitudes (OR = 2.10) were associated with stalking perpetration. In contrast, in women, attitudes supportive of IPV were associated with increased odds of being a PRS perpetrator.

5.7 Discussion

The role of cognition in IPV and PRS has been studied infrequently when compared to cognition implicated in other types of aggressive and antisocial behavior. This paper addressed this issue by investigating the role of antisocial and relationship-specific aggressive cognition in IPV and PRS, in addition to the role of interpersonal and romantic entitlement. Moreover, this study tested how much explanatory value these cognitive variables hold beyond the effects of experiencing relationship aggression.

Associations between predictor variables and relationship aggression varied between men and women. In women, longer relationship duration and attitudes supportive of stalking were associated with IPV, while in men attitudes supportive of violence generally were related to IPV. For both genders, perpetrating IPV was predicted by experiencing IPV and relationship-specific entitlement, although more so in men. Stalking perpetration was predicted by stalking victimization in both genders. Male stalking perpetrators were further characterized by attitudes supportive of violence and relational entitlement. In women, stalking perpetration was associated with attitudes supportive of intimate partner violence.

5.7.1 The role of general and specific aggression-supportive cognition in relationship aggression. Intimate partner violence was associated with general violence-supportive attitudes in men. Although IPV- and stalking attitudes were significant predictors of IPV at a univariate level, and attitudes supportive of stalking were specifically associated with stalking perpetration, these attitudes did not uniquely contribute to multivariate models of relationship aggression outcomes once general violence-supportive attitudes were taken into account. This finding supports current discourse suggesting a link between IPV and general violence-condoning attitudes (Gilchrist, 2009b; Pornari et al., 2013) and is consistent with social-cognitive models proposing that general antisocial attitudes may be most predictive of aggression and violence (Hamby & Grych, 2013). It is also consistent with the results of studies suggesting that IPV may not have a specific etiology and may be best explained using general aggression frameworks (e.g., Bates et al., 2014).
In contrast, in the female subsample, attitudes generally supportive of violence were not significantly associated with either IPV or stalking, while offense-specific attitudes were related to both types of relationship aggression. Perhaps this specificity of attitudes is one of the reasons that rates of relationship violence specialization appear higher among female than male perpetrators of IPV (Bates et al., 2014). The importance of specific attitudes may suggest that women hold aggressive schemas or scripts specific to romantic relationships that do not generalize to other interpersonal contexts (Senkans et al., Chapter 3, this thesis). It is also possible that IPV by women may not be associated with general violence-supportive attitudes, but other variables such as relationship dissatisfaction (e.g., Stith et al., 2004). This explanation would also be consistent with our finding that a contextual variable (relationship duration) predicted IPV perpetration with the strongest effect sizes (besides victimization). Some may speculate that men’s violence was more strongly associated with violence-supportive attitudes because their relationship aggression was more severe than women’s. However, this seems unlikely as men and women reported comparable levels of IPV perpetration in this sample.

This study provided evidence supporting a role for antisocial cognition in relationship aggression. However, the specificity of the relationship between attitudes and behavior was only as hypothesized in the male subsample (and only in univariate analyses). In women, stalking attitudes predicted IPV perpetration and IPV attitudes predicted PRS. It may be that the measures are actually insensitive to differences between IPV and PRS in women. This lack of specificity in the relationship between attitudes and behavior was a somewhat unexpected finding that requires further study.

5.7.2 The role of relationship cognition in relationship aggression. The results supported our hypothesis that relationship-specific entitlement would be predictive of relationship aggression beyond the effects of antisocial attitudes and victimization. In their systematic review, Pornari et al. (2013) found that indirect evidence for heightened relationship entitlement in IPV offenders. However, this study is the first to directly measure relational entitlement in a sample of IPV perpetrators and non-perpetrators. Overall, women scored higher on relational entitlement than men. However, high relational entitlement was associated with IPV in both men and women and with PRS perpetration in men. This finding is supportive of anecdotal reports that many male ex-intimate stalkers possess a pervasive sense of relational entitlement (Mullen et al., 2009). The link between relational entitlement and stalking behavior requires further study. For example, it is possible that some stalkers feel entitled to an apology or explanation from the victim rather than entitled to the relationship itself (Thompson &
LeClerc, 2014). Notably, only relationship specific entitlement was related to relationship aggression in our sample, with a general sense of interpersonal entitlement being unrelated in the majority of analyses (the exception being a small univariate relationship with IPV perpetration in men). Antisocial entitlement was related to IPV in both genders and stalking in women, however only at the univariate level.

5.7.3 The role of victimization. It is important to emphasize that, without exception, perpetrators’ victimization experiences were the strongest predictors of IPV and PRS across all models. Cognitive variables obtained small to moderate effect sizes (ORs ranged from 1.54 – 2.77) in comparison to the moderate to very large effect sizes observed for victimization predictors (ORs ranged from 3.20 – 13.32). Nevertheless, the predictors of interest to this study still contributed to the prediction of IPV and PRS beyond the strong effects of victimization experiences. This not only confirms existing research (Langhinrichsen-Rohling et al., 2012), but also suggests that partner aggression is comparable to general aggression. The General Aggression Model (Anderson & Bushman, 2002) suggests that provocation can be a major situational factor in aggression. It has also been proposed that humans have evolved a revenge system. This system produces behavior that imposes costs on harm doers and thereby reduces potential aggression towards the individual (McCullough, Kurzban, & Tabak, 2013). Indeed, a study by Elmquist et al. (2014) found that retaliation was a frequently endorsed motive for IPV in both male and female IPV perpetrators.

5.7.4 Implications. This study has a number of important implications. Research suggests that while general offending and perpetrating violence against partners are moderately related constructs (Moffitt, Krueger, Caspi, & Fagan, 2000), specialization is higher among women who perpetrate IPV than among their male counterparts (Bates et al., 2014). Rates of specialization among stalking offenders have not yet been researched although research indicates that many stalking offenders have a history of violent or other offending (e.g., McEwan, Mullen, MacKenzie, & Ogloff, 2009). Our findings may suggest that relationship-specific aggressive cognition is a contributing factor to women’s higher rates of specialist violence whereas general antisocial and aggression-supportive cognition plays a role in men’s higher rates of generalist violence, respectively. Irrespective of gender, the question of whether cognitions associated with generalist versus specialist IPV and PRS perpetration differ would be of considerable interest to the design of future offender interventions.

A related research question concerns the link between IPV and PRS. Research to date suggests that IPV and PRS are separate but closely related phenomena (Douglas & Dutton,
While univariate analyses in men suggested some specificity of IPV and PRS attitudes, on the multivariate level virtually the same variables were predictive of both phenomena. In women, IPV attitudes predicted PRS and PRS attitudes predicted IPV, which was an unexpected finding that requires further investigation. How knowledge structures may be implicated in IPV and PRS overlap also needs to be addressed in future studies.

As our results show, it is important not to over-emphasize effects of cognitive variables as explanatory variables in multivariate models. However, while contextual (and historical behavioral) variables often provide stronger predictive power, they are less amenable in individual-level behavior change interventions. Thus, antisocial attitudes and other cognitive factors remain one of the primary treatment targets for offender rehabilitation programs (Andrews & Bonta, 2010). As this study illustrates, such attitudes include antisocial and violence-supportive cognition, but also, and perhaps more importantly, what individuals expect in relationships and how entitled they feel to having their relational expectations met.

5.7.5 Limitations. This study was based on retrospective and cross-sectional reports by only one individual of a given dyad. In addition, it used an as yet non-validated measure of PRS and a measure of antisocial attitudes that was only validated in a sample of male criminal offenders. The latter measure may not be sufficiently gender-sensitive. Similar issues may have affected the performance of the SAQ, which was developed based primarily on experiences with male stalkers (McKeon et al., 2014). A second limitation is the use of an undergraduate student sample. While the sample was on average older and more culturally and linguistically diverse than traditional university student samples, the results need to be replicated in more representative samples. Our findings may not be generalizable to adjudicated perpetrators of IPV and stalking or samples from countries that are not predominantly English-speaking and industrialized. Another potential limitation is that the correlations between impression management and IPV and PRS and showed a small-to-moderate effect size in univariate analyses. This could mean that some individuals were incorrectly classified as non-perpetrators because of their socially-desirable responding and related underreporting of problematic behaviors. Our study shows that it is crucial to measure tendencies to impression-manage, even in anonymous online self-report studies, to avoid over-estimating effects of explanatory variables.
5.8 Conclusion

This study tested the role of antisocial, aggression-supportive, and relationship cognition in IPV and PRS. The main findings suggest that in men, general violence-supportive attitudes and relational entitlement predicted IPV and PRS beyond the effects of victimization. In women, attitudes specifically supportive of relationship aggression added to the prediction of IPV and PRS, however with a lack of behavioral specificity. General violence-supportive attitudes were not predictive of IPV or PRS in women, and relationship-specific entitlement was not predictive of PRS in women. Taken together, these findings suggest that knowledge structures implicated in IPV and PRS involve a combination of aggression-supportive and problematic relationship cognition (Senkans et al., Chapter 3, this thesis). In addition, while men and women both engaged in IPV and PRS of varying degrees of severity, the cognitive correlates of these behaviors differed between men and women. This suggests that gender-sensitive rather than gendered or gender-neutral is the appropriate level of analysis in relationship aggression research.

5.9 References


http://dx.doi.org/10.1891/1946-6560.3.2.231


Cooper, A. (2015). *Stalking Attitudes Questionnaire: Development and analysis of a measure of attitudes and normative beliefs about stalking behavior.* (Bachelor of Arts in Psychology Honours), Swinburne University of Technology, Melbourne, Australia.


Chapter 5: Cognition in IPV and PRS


McKeon, B. (2009). *The role of offender typology on perceptions of stalking: Community and police perspectives.* (DPsys), Monash University, Melbourne, Australia.


Chapter 5: Cognition in IPV and PRS


Thompson, C. M., Dennison, S. M., & Stewart, A. (2012). Are female stalkers more violent than...


Chapter 6: Relationship Rumination

6 Development and Validation of a Relational Rumination Questionnaire
## 6.1 Table of Contents

6 Development and Validation of a Relational Rumination Questionnaire ......................... 129

6.1 Table of Contents ............................................................................................................. 130

6.2 Abstract .......................................................................................................................... 131

6.3 Introduction ..................................................................................................................... 132

6.4 Study 1 – Exploratory Factor Analysis .......................................................................... 135

6.4.1 Sample ....................................................................................................................... 135

6.4.2 Measures .................................................................................................................... 136

6.4.2.1 Relational Rumination Questionnaire (RelRQ) ................................................ 136

6.4.2.2 Perseverative Thinking Questionnaire (PTQ) .................................................. 137

6.4.3 Hypotheses ............................................................................................................... 137

6.4.4 Analyses .................................................................................................................... 137

6.4.5 Results ....................................................................................................................... 138

6.4.5.1 Exploratory Factor Analyses ............................................................................. 138

6.4.5.2 Exploratory Factor Analyses – Revised ............................................................ 140

6.4.5.3 Correlations between PTQ and RelRQ ............................................................. 140

6.4.5.4 RelRQ and demographics ................................................................................. 141

6.4.5.5 Summary ........................................................................................................... 141

6.5 Study 2 – Confirmatory Factor Analysis and Construct Validity ................................... 142

6.5.1 Sample ....................................................................................................................... 142

6.5.2 Confirmatory Factor Analysis ................................................................................... 143

6.5.3 Convergent validity .................................................................................................... 145

6.5.3.1 Hypotheses ....................................................................................................... 145

6.5.3.2 Measures ........................................................................................................... 145

6.5.3.3 Analyses ............................................................................................................ 147

6.5.3.4 Results ................................................................................................................ 147

6.5.4 Summary ................................................................................................................... 149

6.6 General Discussion ......................................................................................................... 149

6.6.1 Limitations and conclusion ...................................................................................... 151

6.7 References ....................................................................................................................... 152
6.2 Abstract

Rumination about romantic relationships has been implicated in interpersonal problems generally, and intimate partner violence and stalking of former romantic partners specifically. While various scales exist to measure depressive, angry, or general rumination, no existing scale comprehensively assesses rumination on romantic relationships. This paper describes the development and validation of the Relational Rumination Questionnaire (RelRQ). The RelRQ was developed and tested across two studies involving university students and members of the general population. Study 1 ($n = 578$) used exploratory factor analyses to develop an 18-item RelRQ from a larger item pool. The derived three-factor structure: 1) romantic preoccupation rumination; 2) relationship uncertainty rumination; and 3) break-up rumination was confirmed in Study 2 ($n = 525$), and the scale was revised to a 16-item version. Total RelRQ and subscale scores showed high internal consistency, good test-retest reliability, and expected correlations with related constructs such as insecure attachment, anger rumination, and negative affect. Results indicate that the RelRQ can be used in future studies to test if relational rumination is associated with maladaptive relational outcomes such as intimate partner violence and stalking.

Keywords: Rumination, romantic relationships, adult attachment, stalking, intimate partner violence, scale, exploratory factor analysis (EFA), confirmatory factor analysis (CFA)
6.3 Introduction

Success in romantic relationships is thought to be a culturally prescribed life goal (DePaulo & Morris, 2006) and a salient developmental task in emerging adulthood (Roisman, Masten, Coatsworth, & Tellegen, 2004). Accordingly, unrequited love, conflict in romantic relationships, relational uncertainty, and relationship dissolution and reconciliation are major concerns for many people (e.g., Afifi & Reichert, 1996; Aron, Aron, & Allen, 1998; Boelen & van den Hout, 2010). Various authors have highlighted that ruminative thinking about such issues can influence adjustment when relationship goals are frustrated (e.g., Boelen & Reijntjes, 2009; Cupach, Spitzberg, Bolingbroke, & Tellitocci, 2011; Cupach, Spitzberg, & Carson, 2000; Saffrey & Ehrenberg, 2007; Sotelo & Babcock, 2013).

Rumination is characterised as a form of negative self-focused attention that is observed across various types of psychopathology and problematic behaviour (Ehring et al., 2011; Ingram, 1990). Although the content of ruminative thinking may differ greatly, it tends to focus on issues that are self-relevant (Ingram, 1990) in internal domains (i.e., self, mood), external domains (i.e., events related to the self), or both (Kirkegaard Thomsen, 2006). For example, depressive rumination is internal and self-degrading (Ingram, 1990; Nolen-Hoeksema, 1991), whereas angry rumination typically focuses on external events of interpersonal transgressions and what these mean for the self (McCullough, Bono, & Root, 2007; Sukhodolsky, Golub, & Cromwell, 2001; Wade, Vogel, Liao, & Goldman, 2008). Another commonly recognised feature of ruminative thinking is its repetitive nature; it is also experienced as difficult to control, and difficult to disengage from (Ehring et al., 2011; Ingram, 1990). Rumination is perceived as unproductive and non-instrumental, while nevertheless occupying significant mental capacity (Ehring et al., 2011; Nolen-Hoeksema, 1991).

While ruminative thinking can occur in response to a particular negative life event or relational transgression and so can be state-like (Kirkegaard Thomsen, 2006; Wade et al., 2008), research has demonstrated that ruminative thinking can also be characterised as a trait-like response style (Nolen-Hoeksema, 1991). A ruminative response style is thought to be a characteristic way of thinking that involves focussing on a problem (including a negative emotional states), while inhibiting actions or thoughts that may either distract from the problem or contribute to a solution (Ehring et al., 2011; Nolen-Hoeksema, 1991). The evidence to date suggests that rumination has a negative feedback relationship with affect, meaning that rumination may be caused by negative emotional states, maintain such states, or both (for a review see Kirkegaard Thomsen, 2006). This is one reason why rumination has been implicated
in a wide variety of negative psychological outcomes, including depression, anger, jealousy, and anxiety (e.g., Aldao, Nolen-Hoeksema, & Schweizer, 2010; Carson & Cupach, 2000; Nolen-Hoeksema, 1991; Sukhodolsky et al., 2001).

Some authors have pointed to the need to further investigate rumination on different themes (e.g., Kirkegaard Thomsen, 2006). In the specific area of romantic relationships, there has been some interest in how rumination may be involved in emotional maladjustment in different relational contexts (e.g., Reynolds, Searight, & Ratwik, 2014; Saffrey & Ehrenberg, 2007; Tran & Joormann, 2015). More specifically, ruminative thinking is thought to be associated with maladjustment at all three stages of a relationship: during unsuccessful relationship pursuit, during romantic relationships, and after relationship dissolution.

Unrequited love is a concern for many (Aron et al., 1998; Baumeister, Wotman, & Stillwell, 1993), but the way individuals think about unreciprocated love and/or sexual attraction is thought to influence adjustment to frustration of relationship goals. For instance, some individuals may ruminate about why the other person was not interested and the implications this has for their sense of self. This is thought to lead to romantic goal preoccupation associated with negative affect, relationship-focused ruminative thoughts, and behaviours intended to attain relational goals (Yanowitz, 2006). This may be particularly true for those who link the goal of attaining a romantic relationship to higher-order goals such as life happiness (Cupach et al., 2000; Martin, Tesser, & McIntosh, 1993). Very little research has investigated these theoretical ideas empirically.

Research has also suggested that thinking about established relationships in a ruminative way can have negative implications for relationship functioning. For example, in a series of longitudinal studies, McCullough et al. (2007) found that rumination was negatively associated with forgiveness of relationship transgressions. Recent couple-based research has identified a vicious cycle of passive dyadic coping, of which rumination by one partner and withdrawal by the other are interdependent components (D. B. King & DeLongis, 2014). Rumination may also be associated with aggressive behaviours in a romantic relationship context. The few studies that have investigated rumination in intimate partner violence (IPV) found that increased levels of ruminative thinking were positively associated with IPV perpetration (Sotelo & Babcock, 2013; Watkins, DiLillo, & Maldonado, 2015).

Attachment theorists have also highlighted the link between ruminative thinking and interpersonal problems. Rumination is one of a number of self-defeating strategies thought to maintain a “self-amplifying cycle of distress”, which renders threats to the attachment system
cognitively accessible long after they have dissipated (Mikulincer & Shaver, 2008, p. 520). From this perspective, relational rumination is one aspect of anxious attachment. There is also some preliminary evidence that rumination may mediate the link between insecure attachment and a number of poor interpersonal outcomes (e.g., Burnette, Davis, Green, Worthington Jr, & Bradfield, 2009; Chung, 2014; Reynolds et al., 2014), although no studies have specifically examined the link between rumination about relationships and anxious attachment.

In addition to contributing to maladjustment during relationship pursuit and dissatisfaction during relationships, rumination has been linked to maladjustment after relationship dissolution (Davis, Shaver, & Vernon, 2003; Saffrey & Ehrenberg, 2007; Tran & Joormann, 2015), including post-separation stalking. Cupach et al. (2000) suggested that rumination on relational goals and preoccupation with the ex-partner may be a central contributing factor in ex-partner stalking and relational intrusion (see also: Cupach et al., 2011). Many studies have indicated that general rumination, anger rumination, and partner preoccupation are all associated with engaging in post-relationship relational intrusion (Cupach et al., 2011; De Smet, Uzieblo, Loeys, Buyssse, & Onraedt, 2015; Marquez, 2013; Spitzberg, Cupach, Hannawa, & Crowley, 2014).

Most of the research conducted on rumination seems to suggests that it is most commonly conceptualised as a trait variable (with the exception of Wade et al., 2008). It can be assumed that rumination on relationship attainment would be most salient while single, while rumination about an ongoing relationship or a breakup would be most salient while in a relationship or after a breakup, respectively. However, people who have a trait-like tendency to ruminate on relationships may do so irrespective of their relationship status, meaning that different types of relationship rumination would be highly correlated. For example, a person who ruminates about their current relationship may also ruminate about an ex-partner, while someone who recently experienced a breakup may ruminate about this but also about acquiring a new relationship. This is consistent with the attachment literature, which suggests that a pervasive concern surrounding all types of relationship problems is an important cognitive aspect of anxious attachment (Mikulincer & Shaver, 2007).

While relationship rumination would appear to be a useful topic for further research, at present there are no measures of the construct that have been carefully validated. Existing scales are either highly specific (e.g., Facebook rumination after a breakup; Tran & Joormann, 2015) and/or were not subjected to comprehensive validity and reliability analyses (e.g., Cupach et al., 2011; Davis et al., 2003; Saffrey & Ehrenberg, 2007; Spitzberg et al., 2014; Tran &
Joormann, 2015). Only Spitzberg et al. (2014) reported the internal structure of their rumination measure using exploratory principle component analysis, however their measure only included rumination about breakups. While a validated scale exists to measure romantic preoccupation, it is lengthy and also includes emotional (e.g., “I do not feel depressed when I think about my lack of romantic relationships”) and behavioural (e.g., “I tend to scan my social environment for potential romantic relationships”) components of romantic goal preoccupation (Yanowitz, 2006). No existing scale specifically measures rumination about ongoing relationships. It could be argued that a measure of anxious attachment may suffice to capture relationship rumination, however; attachment research and theories often conflate cognitive, affective, and behavioural domains of attachment (Holmes, 2000), and can therefore not measure the construct of relationship rumination as relevant to different relationship contexts.

Given the shortcomings in existing measures, the aim of the current research was to develop and validate a brief, multi-faceted, self-report measure of romantic relationship rumination. The aim of Study 1 was to establish the factor structure of the newly developed measure using exploratory factor analysis (EFA). The aim of Study 2 was to replicate the measure’s factor structure using confirmatory factor analysis (CFA), and to evaluate test-retest reliability and convergent validity.

6.4 Study 1 – Exploratory Factor Analysis

The aims of Study 1 were a) to explore the factor structure of the newly developed RelRQ; b) evaluate internal consistency (Cronbach’s alpha) and preliminary convergent validity; and c) revise and shorten the RelRQ. This study was approved by the [authors’ university] Human Research Ethics Committee. Informed consent was obtained from all participants.

6.4.1 Sample. The sample consisted of 578 participants including volunteers who answered advertisements on an Australian university news website (n = 258) and participants recruited by a market research company (n = 320). The former group received no compensation for completing the online survey while those recruited by the market research company were compensated according to the company’s policies with an amount unknown to the researchers. Participants were between 18 and 80 years old (M = 38.44, SD = 15.82). Two-hundred and twelve participants were male (36.7%), 363 female (62.8), and three (0.5%) did not specify their gender. Most identified as Australian (64.7%, n = 368) including 1% (n = 6) who were Aboriginal or Torres Strait Islander; 13.9% (n = 81) identified as Asian; 13.6% (n = 79) European; 1.4% (n = 8) New Zealand; 0.7% (n = 4) Middle Eastern/ North African; 0.5% (n = 3) South or East African; and 0.2% (n = 1) North American. Region of origin was unspecified for 4.8% (n = 28). Eighty-five
percent \(n = 492\) reported English as their first language.

Thirty-five percent \(n = 202\) were single at the time of participation; the remaining 65% \(n = 376\) had partners (dating, in a relationship, engaged, married). Most participants \(78.4\%, n = 453\) reported previous relationships. The majority \(72.8\%, n = 421\) had experienced a breakup before, 17.1% \(n = 99\) had not and 10.3% \(n = 58\) did not specify.

### 6.4.2 Measures

#### 6.4.2.1 Relational Rumination Questionnaire (RelRQ). Possible “topics” for relationship rumination were identified from the extant attachment, close relationships, and social cognition literatures: loneliness, romantic preoccupation (i.e., establishing a romantic relationship), abandonment/rejection, jealousy, and breakup. Fifty items were developed measuring these topics (10 per topic) and administered online in random order. Thirty-eight items were generated independently by the first and second author, while remaining items were adapted from published scales. All items, including adapted items, reflected central aspects of ruminative thinking such as repetitiveness (e.g., “I repeatedly think about …”), difficult to control (e.g., “The thought that … plagues my mind”), or unproductiveness (e.g., I contemplate … without arriving at any conclusions”). Two loneliness items were based on content from Russell, Peplau, and Cutrona’s (1980) Revised UCLA Loneliness Scale. Five romantic preoccupation items were adapted from the scale described in Yanowitz’s (2006) thesis. Wording for two abandonment/rejection items was adapted from measures of anxious attachment (Fraley, Waller, & Brennan, 2000) and three items in the jealousy domain were adapted from existing scales of cognitive jealousy or anxious jealousy (Buunk, 1997; Elphinston, Feeney, & Noller, 2011). Items were piloted in two focus groups of university students (total \(n = 10\)) to assess if they were understandable. This resulted in slight modifications (mostly rewording) of 41.6% of the item pool. Each item was rated on a five point Likert-type scale from almost never to almost always.

Participants in the validation sample read the following instructions prior to completing the questionnaire: “In this questionnaire you will be asked to describe how frequently you typically think about negative feelings and experiences in relationships. Please read the following statements carefully then rate how often (almost never, rarely, sometimes, often, almost always) the statement applies to you. There are no right or wrong answers as everyone’s thinking and emotions are different. We are interested in how you generally experience relationship problems, not just what is happening in a current relationship. If you’ve never had a romantic relationship or never experienced certain relationship events, please answer according...
to how you imagine you would be in a relationship. If you are currently in a relationship but you
are answering a question relating to your thoughts when you are single, please try to recall your
usual thoughts/actions when you are single before answering.”

6.4.2.2 Perseverative Thinking Questionnaire (PTQ). The PTQ (Ehring et al., 2011) was
used to assess convergent validity in a sub-sample of 556 participants (22 participants
completed the protocol prior to the addition of the PTQ). The 15-item PTQ is a measure of
general ruminative thinking style and comprises statements such as “Thoughts intrude into my
mind”, which are scored on a 5-point Likert-type scale ranging from 0 = never to 4 = almost
always. The PTQ has reported internal consistency of $\alpha = .94$ to .95 and test-retest reliability of
$r_{tt} = .69$. In the current study, a 4 point scale ranging from 0 = almost never to 4 = almost always
was used and item 3 was changed from “I can’t stop dwelling on them” to “I can’t stop dwelling
on my thoughts” as the PTQ and RelRQ items were administered in a combined, randomised
item pool. In the current sample internal consistency of the PTQ was $\alpha = .96$.

6.4.3 Hypotheses. Multiple models for the RelRQ were hypothesised a priori. Model 1
was a one-factor model with all items loading on a single factor: relational rumination. Model 2
was a two-factor model comprised of rumination about relationship (re)acquisition and
relationship uncertainty. Model 3 encompassed three factors based on the literature reviewed
above: romantic preoccupation, relationship uncertainty, and rumination about breakup(s).

It was hypothesised that there would be significant and large correlations between the
PTQ and the RelRQ. We also tested some hypotheses regarding the factor structure of the
RelRQ and demographic variables, which are further detailed in section 2.5.5 following
presentation of the factor structure identified using EFA.

6.4.4 Analyses. All analyses were conducted using MPlus Version 7.11 (Muthén &
Muthén, 2013) unless otherwise specified. An EFA was performed on the full 50-item pool to
test the goodness-of-fit of the three candidate models to identify the optimal model in the set
(Preacher, Zhang, Kim, & Mels, 2013). Item responses were not normally distributed and the
response scale used for the RelRQ is ordinal. Thus, the appropriate estimation method used in
all analyses was WLSMV (Muthén & Muthén, 1998-2012). This estimation method outperforms
other robust estimation methods for skewed, ordinal variables (Li, 2014). Based on the
literature review, we expected the factors to be highly correlated and selected the default
oblique rotation method (GEOMIN). The $\chi^2$-test indicates the exact goodness-of-fit of a model
(Barrett, 2007) but often rejects models that show acceptable to good approximate fit (Bentler,
2007; Goffin, 2007; Markland, 2007; Miles & Shevlin, 2007; Steiger, 2007). Thus approximate fit
indices were also used for model assessments. According to Hu and Bentler (1999), a
Comparative Fit Index (CFI; Bentler, 1990) above .95, a Root Mean Square Error of
Approximation (RMSEA) under .06 and a Standardized Root Mean Square Residual (SRMR)
under .08 suggests good approximate fit of the model and the observed data. In the CFA, using
WLSMV, MPlus computes the weighted root mean square residual (WRMR) instead of the
SRMR. A WRMR under .90 indicates good fit (Yu, 2002).

6.4.5 Results.

6.4.5.1 Exploratory Factor Analyses. All $\chi^2$ tests were significant, indicating that none of
the three models was an exact fit to the data. However, based on the indices shown in Table
6.1, a three factor model was the best approximate fit to the data for both the full item pool.
6.1 also shows fit indices of the revised 18-item version that is subsequently described in more
detail.

Table 6.1 Model Fit Information for Exploratory Factor Analyses.

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>RMSEA</th>
<th>SRMR</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6665.20</td>
<td>1175</td>
<td>.091 [.089, .093]</td>
<td>.087</td>
<td>.897</td>
</tr>
<tr>
<td></td>
<td>$p&lt;.001$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4467.73</td>
<td>1126</td>
<td>.072 [.070, .075]</td>
<td>.058</td>
<td>.937</td>
</tr>
<tr>
<td></td>
<td>$p&lt;.001$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a</td>
<td>2886.77</td>
<td>1078</td>
<td>.054 [.052, .057]</td>
<td>.041</td>
<td>.966</td>
</tr>
<tr>
<td></td>
<td>$p&lt;.001$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3b</td>
<td>430.84</td>
<td>102</td>
<td>.075 [0.068, 0.083]</td>
<td>.024</td>
<td>.984</td>
</tr>
<tr>
<td></td>
<td>$p&lt;.001$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Model 1 = Single common factor model of full item pool; Model 2 = Two factor model (relationship
uncertainty and relationship (re)acquisition) of full item pool; Model 3a = Three factor model (romantic
preoccupation, relationship uncertainty, and breakup rumination) of full item pool; Model 3b = Three
factor model of 18-item revised version. $\chi^2 = \text{WLSMV Chi-Square test}; df = \text{degrees of freedom}; RMSEA =
Root Mean Square Error of Approximation; Numbers in brackets are 95% confidence intervals of RMSEA;
SRMR = Standardized Root Mean Square Residual; CFI = Comparative Fit Index.

The GEOMIN rotated loadings were examined to interpret the factor structure and the
three factors were labelled romantic preoccupation rumination (RP), relationship uncertainty
rumination (RU), and breakup rumination (BU). Fifteen items loaded on the RP factor, including
nine of the originally developed romantic preoccupation items and six loneliness items. Sixteen
items loaded on the RU factor, including six original rejection/abandonment items and all
jealousy items. Eight of the break-up items loaded on the BU factor. The remaining 11 items were removed because the factor matrix (item-factor correlations) indicated that they were moderately correlated with all three factors.

Table 6.2 Obliquely Rotated Relationship Rumination Questionnaire Factor Loadings.

<table>
<thead>
<tr>
<th>Item</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>.76</td>
<td>.16</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>.72</td>
<td>.11</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>-.12</td>
<td>.99</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>.10</td>
<td>.78</td>
<td></td>
</tr>
</tbody>
</table>

Note: F1 = Romantic Preoccupation rumination (RP); F2 = Relationship uncertainty rumination (RU); F3 = Breakup rumination (BU). All loadings significant at $p < .05$.

Adapted from (Yanowitz, 2006); Adapted from (Buunk, 1997).

Factor loadings, item-factor correlations, variances, means, $\alpha$-if-item-deleted, and item content were investigated to decide which other items to remove from the scale. Based on this
information, another 21 items were deleted for psychometric and/or content reasons. The revised RelRQ included six romantic preoccupation items on Factor 1, six jealousy items and one rejection/abandonment item on Factor 2, and five break-up rumination items on Factor 3. Some loneliness items had high loadings on F1, but all were considered redundant and were removed from the revised RelRQ. Interestingly, many of the rejection/abandonment items showed moderate to high correlations with all factors, suggesting that they measured a broader underlying construct such as attachment anxiety, and so were removed from the RelRQ.

6.4.5.2 Exploratory Factor Analyses – Revised. Another EFA was conducted on the revised scale. As shown in Table 6.1, the three-factor model showed good fit using the revised measure. As evident in Table 6.2, the EFA resulted in a meaningful and interpretable factor structure.5

6.4.5.3 Correlations between PTQ and RelRQ. The revisions resulted in an 18-item measure with three subscales. Correlations between the factors were significant and substantial as illustrated in Table 6.3. As expected, the correlation between PTQ and RelRQ was significant and large.

Table 6.3 Inter-correlations between RelRQ Total Score, RelRQ Subscales, and PTQ.

<table>
<thead>
<tr>
<th></th>
<th>RelRQ</th>
<th>RelRQ-RP</th>
<th>RelRQ-RU</th>
<th>RelRQ-BU</th>
<th>PTQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELRQ</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RelRQ-RP</td>
<td>.86 [.84, .88]a</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RelRQ-RU</td>
<td></td>
<td>.86 [.83, .88]a</td>
<td>.57 [.50, .63]a</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>RelRQ-BU</td>
<td></td>
<td>.82 [.78, .85]a</td>
<td></td>
<td>.62 [.56, .67]a</td>
<td>—</td>
</tr>
<tr>
<td>PTQ</td>
<td></td>
<td>.72 [.68, .76]b</td>
<td>.62 [.56, .67]b</td>
<td>.61 [.55, .67]b</td>
<td>.54 [.47, .60]b</td>
</tr>
</tbody>
</table>

Note Numbers in brackets are 95% confidence intervals of Spearman’s ρ correlation coefficients. All coefficients are significant at \( p < .01 \) (2-tailed). RelRQ = Relational Rumination Questionnaire; RelRQ-RP = Relational Rumination Questionnaire Romantic Preoccupation subscale; RelRQ-RU = Relational Rumination Questionnaire Relationship uncertainty subscale; RelRQ-BU = Relational Rumination Questionnaire Breakup subscale.

5 \( n = 578 \)

\( n = 556 \)

The factor structure held in additional analyses excluding participants who never had a romantic relationship or never experienced the breakup of a romantic relationship. These results are available on request.

Chapter 6: Relationship Rumination
6.4.5.4 RelRQ and demographics. It was hypothesised that women would score higher on the RelRQ total than males given the robust finding in the rumination literature that women achieve higher scores on rumination measures (e.g., Nolen-Hoeksema, 2001). Exploratory subscale analyses were also conducted to test the hypotheses that there would be no difference on overall RelRQ between single and partnered individuals; partnered individuals would score higher on the RU factor than singles; and singles would score higher on the RP factor. We expected these results as the trait tendency to ruminate on relationship should be most expressed as relevant to the participant’s current relationship status. We did not have any directional hypotheses about BU factor scores. Descriptive statistics, Spearman’s ρ correlations, and t-tests computed with SPSS 22.0 (IBM Corp., 2013) were used to assess the relationship between RelRQ total and factor scores and age, gender, and relationship status.

These hypotheses were partly supported. As expected, RelRQ responses varied between genders. Women scored significantly higher on the total RelRQ (M = 33.80, SD = 13.70) and RU (M = 13.14, SD = 6.33) than men (RelRQ: M = 31.46, SD = 13.00, t(568) = -2.01, p < .05, d = 0.18; RU: M = 11.91, SD = 5.42, t(497.266) = -1.23, p < .05, d = 0.21), but with small effects (Cohen, 1988). There were no significant gender differences on the RP and BU subscales. The second hypothesis was not confirmed. Single individuals had significantly higher total scores and higher scores on all three subscales (RelRQ: M = 38.16, SD = 14.28, t(353.87) = 6.77, p < .05; RP: M = 14.40, SD = 5.56, t(353.60) = 9.43, p < .05; RU: M = 13.40, SD = 6.08, t(576) = 2.12, p < .05; BU: M = 10.34, SD = 5.00, t(319.77) = 6.36, p < .05) than partnered people (RelRQ: M = 30.11, SD = 12.11; RP: M = 10.04, SD = 4.71; RU: M = 12.28, SD = 9.95; BU: M = 7.78, SD = 3.68). This effect was large for the RP subscale (d = 0.85), moderate for RelRQ total (d = 0.61) and BU (d = 0.58), and small for RU (d = 0.14; Cohen, 1988). While singles differed on all scales, the strongest effect was found for the RP scale, in the hypothesised direction. This subscale reflects issues that should be theoretically more relevant to single people, providing some support for the external validity for the RelRQ and its subscales. Age was moderately inversely correlated with RelRQ (r = -.31, p < .001).

6.4.5.5 Summary. Study 1 showed the RelRQ to be a reliable 18-item measure of relational rumination. While the identified exploratory model was not an exact fit for the data, a three-factor solution (romantic preoccupation rumination, relationship uncertainty rumination, and break-up rumination) was the optimal model in the set showing adequate approximate fit. The factors correlated highly with each other. In addition, the RelRQ and its subscales correlated meaningfully with a measure of general rumination. A second study was conducted.
in an independent sample to confirm the factor structure of the RelRQ, replicate results regarding demographic differences, and examine test-retest reliability and convergent validity of the RelRQ.

6.5 Study 2 – Confirmatory Factor Analysis and Construct Validity

The aims of Study 2 were a) to conduct confirmatory factor analyses (CFA) on the revised RelRQ; b) to establish test-retest reliability; and c) to test convergent validity of the final version of the RelRQ. This study was approved by Swinburne Human Research Ethics Committee. Informed consent was obtained from all participants. The survey was hosted online using the platform Surveymonkey™ and consisted of a demographic questionnaire followed by 12 scales that were counter-balanced (total of 192 items). Eight scales were used in the current study.

6.5.1 Sample. Course credits were used to compensate 525 undergraduate students for participating. Participants were between 18-62 years old (M = 29.29, SD = 9.94) and 80.5% (n = 422) of the sample were female. Eighty-nine percent (n = 470) identified as exclusively or predominantly heterosexual, 3.8% (n = 20) as bisexual, and 4.4% (n = 23) as exclusively or predominantly homosexual. Twelve (2.1%) did not want to specify or ticked “other”. Reflecting the ethnic diversity of the Australian tertiary student population, 66.6% (n = 351) of participants considered themselves Australian (2 identifying themselves as Aboriginal Australian and 89 identifying a combined ethnicity such as Chinese Australian or Italian Australian); 15.4% (n = 81) various European ethnicities; 6.7% (n = 35) various Asian ethnicities; 2.1% (n = 11) a Southern or Eastern African ethnicity; 1.5% (n = 8) various North African or Middle Eastern ethnicities; 1.1% (n = 6) New Zealander; 1% (n = 5) a North or South American ethnicity; and, 0.6% (n = 3) Pacific Islander. Five percent (n = 24) did not specify. Most participants had completed secondary school (n = 501, 95.6%), 37% had already completed a diploma or certificate, 14% another Bachelor degree and 3% had postgraduate qualifications. Ninety two percent of participants spoke English as their first language.

Sixty-two percent (n = 325) were in a relationship at the time of participating. The majority (n = 443; 84.5%) had experienced the breakup of a romantic relationship in the past, 47 (9%) had not, and 6.5% (n = 34) had never been in a romantic relationship. A subsample of 65 participants completed the RelRQ again after 4 weeks to establish test-retest reliability.
6.5.2 **Confirmatory Factor Analysis.** The sample was randomly divided into a training sample \((n = 263)\), used to initially test the three factor model, and a validation sample to confirm the factor structure after possible modification of the model \((n = 262)\). As shown in Table 6.4, neither model showed exact fit, but Model 3a showed acceptable approximate fit. To increase model fit and parsimony, residuals were examined for items that had misfit (as indicated by modification indices) and one item (#3) was deleted, with the resulting 17-item model showing slightly better fit. A second item (#12) was deleted based on misfit and redundancy, resulting in the final 16-item measure. The revised 16-item, three-factor model was the best-fitting model in the training set (see Table 6.4). The model was successfully cross-validated in the validation sample (see Table 6.4; Model 3b). Table 6.5 shows the final revision of the RelRQ and standardized factor loadings in both the validation and training samples.

Table 6.4 Model Fit Information for Confirmatory Factor Analyses.

<table>
<thead>
<tr>
<th></th>
<th>(\chi^2)</th>
<th>df</th>
<th>RMSEA</th>
<th>WRMR</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>302.40</td>
<td>132</td>
<td>.070 [.060, .080]</td>
<td>1.021</td>
<td>.981</td>
</tr>
<tr>
<td></td>
<td>(p &lt; .001)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>196.33</td>
<td>116</td>
<td>.051 [.039, .063]</td>
<td>.811</td>
<td>.991</td>
</tr>
<tr>
<td></td>
<td>(p &lt; .001)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a</td>
<td>152.93</td>
<td>101</td>
<td>.044 [.029, .058]</td>
<td>.724</td>
<td>.994</td>
</tr>
<tr>
<td></td>
<td>(p &lt; .001)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3b</td>
<td>144.00</td>
<td>101</td>
<td>.040 [.024, .055]</td>
<td>.649</td>
<td>.994</td>
</tr>
<tr>
<td></td>
<td>(p &lt; .001)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Model 1 = Three factor model (RP, RU, BU) 18 items – training set; Model 2 = Three factor model (RP, RU, BU) 17 items – training set; Model 3a = Three factor model (RP, RU, BU) 16 items – training set; Model 3b = Three factor model of 16-items – validation set. \(\chi^2\) = WLSMV Chi-Square test; df = degrees of freedom; RMSEA = Root Mean Square Error of Approximation; Numbers in brackets are 95% confidence intervals of RMSEA; WRMR = Weighted Root Mean Square Residual; CFI = Comparative Fit Index.*
Table 6.5 Factor Loadings of RelRQ in Training and Validation Data Sets.

<table>
<thead>
<tr>
<th>Item #</th>
<th>Item</th>
<th>Training data set</th>
<th>Validation data set</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F1</td>
<td>F2</td>
</tr>
<tr>
<td>2</td>
<td>Thoughts about how to find a partner plague my mind.</td>
<td>.90</td>
<td>.89</td>
</tr>
<tr>
<td>16</td>
<td>I think about how to find a romantic relationship to avoid ending up alone.</td>
<td>.86</td>
<td>.83</td>
</tr>
<tr>
<td>7</td>
<td>I keep on wondering why my friends have romantic relationships and I don’t.</td>
<td>.85</td>
<td>.85</td>
</tr>
<tr>
<td>10</td>
<td>Thoughts about why I am not in relationship pop into my head without me wanting them to.</td>
<td>.85</td>
<td>.90</td>
</tr>
<tr>
<td>1</td>
<td>I think of strategies to get into a romantic relationship over and over again.</td>
<td>.83</td>
<td>.83</td>
</tr>
<tr>
<td>17</td>
<td>I imagine my partner cheating on me even though I don’t want to.</td>
<td>.92</td>
<td>.91</td>
</tr>
<tr>
<td>13</td>
<td>Nagging doubts about my partner’s faithfulness pop up in my mind.</td>
<td>.91</td>
<td>.90</td>
</tr>
<tr>
<td>5</td>
<td>Thoughts about my partner cheating on me stress me out.</td>
<td>.90</td>
<td>.84</td>
</tr>
<tr>
<td>11</td>
<td>I get caught up in imagining scenarios in which my partner would cheat on me.</td>
<td>.88</td>
<td>.86</td>
</tr>
<tr>
<td>4</td>
<td>The thought of my partner sleeping with somebody else crosses my mind.</td>
<td>.86</td>
<td>.83</td>
</tr>
<tr>
<td>8</td>
<td>I keep thinking that other people are interested in my partner.</td>
<td>.78</td>
<td>.73</td>
</tr>
<tr>
<td>6</td>
<td>I go over and over the reasons why my relationship(s) with my ex-partner(s) ended.</td>
<td>.90</td>
<td>.90</td>
</tr>
<tr>
<td>9</td>
<td>I think about how I should have prevented the break-up with an ex-partner.</td>
<td>.88</td>
<td>.86</td>
</tr>
<tr>
<td>14</td>
<td>I think over and over again about how to re-establish the relationship with my ex-partner.</td>
<td>.87</td>
<td>.83</td>
</tr>
<tr>
<td>15</td>
<td>Thoughts about my ex-partner(s) distract me from other things I should be doing.</td>
<td>.86</td>
<td>.87</td>
</tr>
<tr>
<td>18</td>
<td>I wish I could stop thinking about my ex-partner(s), but I can’t.</td>
<td>.86</td>
<td>.85</td>
</tr>
</tbody>
</table>

Note: F1 = Romantic Preoccupation rumination (RP); F2 = Relationship uncertainty rumination (RU); F3 = Breakup rumination (BU). All loadings significant at $p < .001$.  

Chapter 6: Relationship Rumination
6.5.3 Convergent validity

6.5.3.1 Hypotheses. It was hypothesised that: a) The RelRQ would positively correlate with anxious and avoidant attachment, although more strongly with the former; b) The RelRQ would be negatively related to positive affect and positively related to negative affect; c) The RelRQ would be positively associated with state and anger rumination; d) The RelRQ would be positively related to emotional suppression, negatively related to emotional reappraisal, and positively associated with emotion dysregulation; e) The RelRQ would be negatively correlated with positive relationship functioning.

It was further hypothesised that Study 1 results regarding the RelRQ and demographics would be replicated: Women would score higher on the total RelRQ and the RU subscale than men; and singles would score significantly higher on the RelRQ and all its subscales than partnered participants.

6.5.3.2 Measures. All measures were administered in random order with item order randomised within each questionnaire.

RelRQ The 16-item RelRQ was used in all analyses. Cronbach’s α values were: total scale = .91, RP = .90, RU = .92 and BU = .91. The instructions detailed in section 2.1.1 were provided to participants.

Attachment The Revised Experiences in Close Relationships (ECR-R; Fraley et al., 2000) measures avoidant (models of others) and anxious (models of self) attachment orientations using two 18 item scales rated on a Likert-type scale ranging from 0 (strongly disagree) to 6 (strongly agree). Sibley and colleagues (2005) identified two internally consistent factors in the ECR-R: anxious attachment (α = .93) and avoidant attachment (α = .94) that were moderately strongly correlated ($r = .48$, $p < .001$). The ECR-R has been shown to be test–retest reliable (rtt = .90 – .92) over a three-week period (Sibley, Fischer, & Liu, 2005). We used the instructions detailed in Sibley et al. (2005), specifying that participants think about their experiences in romantic relationships when responding. In the current sample, internal consistency was α = .94 for anxious attachment and α = .95 for avoidant attachment. Avoidant and anxious attachment were moderately correlated ($r = .38$, $p < .001$).

Positive and Negative Affectivity The short form of the Positive and Negative Affect Schedule (PANAS-SF; Mackinnon et al., 1999) measures the dispositional tendency to experience positive (PA) and negative affect (NA). In the development sample, internal consistency was α = .79 for positive affect, and α = .85 for negative affect. Test-retest reliability
was not established. In the current sample internal consistency was $\alpha = .80$ for positive affect, and $\alpha = .85$ for negative affect.

**Inclusion of Other in Self** Aron et al.'s (1992) single-item pictorial Inclusion of Other in the Self scale (IOS) was used to assess healthy, positive relationship functioning. Participants select which of seven Venn diagrams with different degrees of overlap between two circles (creating an interval scale) best represents their view of themselves in relation to their partner in a romantic relationship. The IOS is test-retest reliable ($r_{tt} = .83$) over a period of 2 weeks and has demonstrated convergent validity with related measures. The higher IOS the higher is relationship satisfaction, intimacy, and commitment (Aron et al., 1992).

**Emotion Regulation Questionnaire - 9** The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) is a 10-item, self-report measure of trait emotion expression/suppression (ERQ-S; four items) and reappraisal (ERQ-R; six items). Participants endorse items on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Spaapen, Waters, Brummer, Stopa, and Bucks (2014) report validation of the ERQ in representative Australian and UK samples, identifying a nine item version as preferred, which was used in this study. Reliability of the suppression (Australian: $\alpha = .78$; United Kingdom: $\alpha = .74$) and reappraisal (Australian: $\alpha = .76$; United Kingdom: $\alpha = .80$) scales was adequate. Gross and John (2003) reported $r_{tt} = .69$ across 3 months in their original validation sample. In the current sample we found $\alpha = .82$ for suppression and $\alpha = .87$ for reappraisal.

**Emotion Dysregulation Measure** Newhill, Mulvey, and Pilkonis (2004) developed the 13-item scale General Emotional Dysregulation Measure (GEDM) measuring general emotional arousal and dysregulation of negative affect in a sample of a 100 individuals diagnosed with a DSM-IV Cluster B personality disorder. Participants endorse statements such as: “In general, I have a hard time handling my emotions” on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The GEDM is reliable ($\alpha = .82$), stable over 3 weeks ($r_{tt} = .81$), and demonstrates convergent and discriminant validity (Newhill et al., 2004). Newhill et al. (2004) found a ceiling effect suggesting that the scale is appropriate for use in a non-clinical sample. In the current sample $\alpha = .92$.

**Anger rumination scale** The Anger Rumination Scale (ARS; Sukhodolsky et al., 2001) uses 19 items to examine the degree to which individuals tend to focus on angry moods. Participants are asked to respond to items on a 4 point Likert-type scale ranging from 1 (Almost never) to 4 (Almost always). The ARS consists of four subscales: Angry Afterthoughts, Thoughts of Revenge, Angry Memories, and Understanding of Causes. The total scale is highly reliable ($\alpha = .93$), stable
across a month \( (r_{rt} = .77) \), and has established convergent and discriminant validity (Sukhdolsky et al., 2001). In the current sample the ARS exhibited \( \alpha = .93 \).

**Rumination about Interpersonal Offence Scale (RIO)** Wade et al. (2008) developed a measure of ruminative responses to situations in which participants recall a specific upsetting interpersonal experience that occurred within the last 7 days. They are then asked to rate statements in relation to this experience, e.g., “I can’t stop thinking about how I was wronged by this person” on a 5-point Likert scale ranging from (from 1, strongly disagree to 5, strongly agree). Internal consistency was high (\( \alpha = .91-.92 \)) and test-retest reliability was acceptable \( (r_{rt} = .51, \) over 10 weeks). Convergent validity was also supported in Wade et al.’s (2008) study. In the current sample \( \alpha = .86 \).

**6.5.3.3 Analyses.** SPSS 22 (IBM Corp., 2013) was used for all analyses with Spearman’s \( \rho \) correlations used to establish test-retest reliability and convergent validity. Differences regarding RelRQ responses by demographic characteristics were assessed using t-tests to compare group mean differences.

**6.5.3.4 Results.** The total RelRQ and all subscales showed good test-retest reliability over a period of 4 weeks \( \text{(RelRQ: } r_{rt} = .71, p < .01; \text{ RP: } r_{rt} = .74, p < .01; \text{ RU: } r_{rt} = .68, p < .01; \text{ BU: } r_{rt} = .71, p < .01) \). All hypotheses regarding convergent validity were supported (see Table 6.6), with a large effect size observed between attachment anxiety and relationship rumination, and moderate effect sizes between relationship rumination and other forms of ruminative thinking (ARS and RIO), negative affect, and avoidant attachment.

Chapter 6: Relationship Rumination
In contrast to our hypotheses and previous findings, there were no gender differences in RelRQ total or subscale scores in this sample. However, single individuals scored significantly higher on the RelRQ overall, and all three subscales (RelRQ: \( M = 37.73, SD = 12.14, t(355.70) = 9.07, p < .05 \); RP: \( M = 13.26, SD = 5.15, t(320.62) = 11.87, p < .05 \); RU: \( M = 12.79, SD = 5.17, t(521) = 2.47, p < .05 \); BU: \( M = 11.68, SD = 5.14, t(348.57) = 7.34, p < .05 \)) than partnered people (RelRQ: \( M = 28.43, SD = 9.97 \); RP: \( M = 8.29, SD = 3.69 \); RU: \( M = 11.63, SD = 5.26 \); BU: \( M = 8.51, SD = 4.11 \)). Echoing Study 1, the effect sizes for these mean differences was large for the total RelRQ (\( d = 0.84 \)), and the RP subscale (\( d = 1.11 \)), moderate for the BU subscale (\( d = 0.68 \)), and small for the RU subscale (\( d = 0.22 \); Cohen, 1988). Age was again inversely correlated with RelRQ (\( r = -.19, p < .001 \)).
6.5.4 Summary. The RelRQ’s factor structure was confirmed. The RelRQ was test-retest reliable over a period of 4 weeks and internally consistent. Almost all hypotheses regarding convergent validity were supported. In Study 2, the RelRQ was gender-invariant. Single participants scored significantly higher on the RelRQ and its subscales than individuals who were in a relationship, with the strongest group difference observed for RP subscale scores.

6.6 General Discussion

A three-factor, 16-item measure of relational rumination was developed. The factor structure reflected the related themes of rumination about beginning a relationship, rumination about an established relationship, and rumination about ex-partner(s) and previous breakups. This factor structure was robust across independent samples. The RelRQ demonstrated good internal consistency, test-retest reliability, and construct validity. Correlations between the RelRQ and attachment insecurity, general and other specific forms of rumination, and negative affect showed strong to moderate associations with RelRQ, consistent with the rumination literature and strongly supporting the RelRQs’ validity. Correlations with positive affect and measures of emotion regulation were small, though still in the expected direction.

There were some possible demographic differences in RelRQ responses. Women scored higher on the RU subscale and the RelRQ overall than men in Study 1, although the size of the difference was small and there were no such differences in Study 2. This could be because Study 2 participants were younger university students, a population in which both genders may be equally concerned about relational goals. Age was inversely correlated with relational rumination in both studies. This might be explained by older individuals being involved in more stable, more committed relationships (e.g., V. King & Scott, 2005), or by younger people being more concerned about meeting socially prescribed development of romantic competence (e.g., Roisman et al., 2004). These explanations could not be tested in this study and require further research.

Single participants in both studies obtained higher scores on the RelRQ, with the greatest differences on the romantic preoccupation subscale, as predicted. Singles also scored higher on the relationship uncertainty scale, although the effect size suggested that this difference was not particularly meaningful. Single participants also scored more highly on the BU subscale, with a moderate to large effect size. It is possible that these findings reflect underlying beliefs that finding a partner is a necessary condition to leading a fulfilled, happy life.
This in turn may be associated with viewing singlehood and oneself in a negative light (DePaulo & Morris, 2006, p. 253) and rumination about previous breakups and how to attain a romantic relationship (Martin et al., 1993).

Cupach et al. (2000) propose that linking of a romantic relationship to abstract goals such as life happiness can increase rumination on romantic relationships and associated negative affect (Martin et al., 1993). This in turn is thought to drive persistent pursuit of desirable potential partners or ex-partners, or even stalking (Cupach et al., 2011; Cupach et al., 2000). Such hypotheses could be more rigorously tested using the newly-developed RelRQ with its focus on rumination on pre- and post-relational romantic concerns separate to rumination on current relationships.

The RelRQ also has potential uses in research examining psychological mechanisms associated with IPV. While angry rumination has been shown to relate to IPV (Sotelo & Babcock, 2013; Watkins et al., 2015), the RelRQ could add considerable value to such research by measuring the highly relevant construct of ruminative relationship jealousy and uncertainty. One potential cause of IPV may be difficulties managing jealousy or other negative emotions (Langhinrichsen-Rohling, 2010; Langhinrichsen-Rohling, McCullars, & Misra, 2012), which may result in aggressive interpersonal responses to jealousy-arousing situations (Carson & Cupach, 2000). It may be that a combination of relationship-related rumination and angry rumination specific to the relationship partner is relevant to IPV, in conjunction with difficulties with effective emotional regulation. The RelRQ showed moderate correlations with negative affect, small to moderate correlations with emotion dysregulation measures, and small correlations with a measure of effective emotion regulation strategies. This provides preliminary evidence that relationship rumination is linked to problems with maintaining ideal levels of emotional arousal (Aldao et al., 2010). The association between trait-like rumination, state-based rumination on particular relationship transgressions (Wade et al., 2008), and emotional dysregulation could be a fruitful area for future research.

The RelRQ was strongly correlated with a measure of general rumination, and moderately correlated with anger rumination and state rumination after a specific interpersonal transgression. Perhaps some individuals have a generally ruminative response style that colours not only their relational goals and concerns, but also their responses to interpersonal transgressions and negative emotional states. The association between general ‘content free’ rumination (Ehring et al., 2011) and rumination on different content warrants further research.

As expected, the RelRQ was strongly positively correlated with anxious attachment and
less strongly with avoidant attachment. The RelRQ can add considerably to existing attachment measures which tend to conflate cognitive (e.g., “I worry a lot about my relationships”), affective (e.g., “It makes me mad that I don’t get the affection and support that I need from my partner”), and behavioural components (“I usually discuss my problems and concerns with my partner”; Fraley et al., 2000, p. 361) of attachment (Holmes, 2000). The RelRQ may be able to more clearly measure one cognitive aspect of attachment, relationship rumination.

It is also possible that rumination is not merely an aspect of anxious attachment but that a third variable explains the relationship. For example, deficits in self-regulation may underlie insecure attachment, rumination, and relational maladjustment, including aggression towards partners (Finkel, DeWall, Slotter, Oaten, & Foshee, 2009). Among related executive functions, self-regulation includes maintaining optimal levels of emotional, motivational, and cognitive arousal (Diamond, 2013). Whereas insecure attachment is associated with ineffective self-regulation in the relational domain overall, relational rumination can be seen as a specific failure to maintain optimal cognitive arousal.

The only construct that did not evidence the predicted relationship with all subscales of RelRQ was healthy relationship functioning (IOS). While total RelRQ, RP, and BU showed the predicted inverse correlation, there was no correlation between RU and IOS. An explanation may be that increased closeness is sometimes associated with more anxiety about losing the partner, generating relationship uncertainty rumination. It is also possible that this single item measure did not sufficiently measure relationship adjustment. Further investigation of the association between RelRQ scores and relational adjustment is warranted.

6.6.1 Limitations and conclusion. This study is limited by convenience sampling, with the predominantly young, educated, and female sample potentially impacting the generalizability of findings. Moreover, no adjustments were made for social desirability, which may affect responses on measures of negative characteristics. Despite these limitations, the RelRQ appears to be a reliable and valid measure of different aspects of rumination about relationships in English-speaking, industrialised societies. We recommend that the full scale is administered, regardless of participants’ dating history or current relationship status. Although the subscales are strongly correlated, it may be appropriate in some cases to report only RP scale results for those who have never experienced a relationship, and only RP and RU results for those who have never experienced a break-up. The RelRQ shares some similar content with existing face-valid scales, however unlike those scales it is multi-faceted and was comprehensively validated. The factor structure was evident in three independent samples, the
measure has sound test-retest reliability, and it shows meaningful correlations with related constructs. The ReIRQ has considerable potential to add to the body of knowledge about the role and impact of romantic relationship rumination on individual functioning.

6.7 References


Buunk, B. P. (1997). Personality, birth order and attachment styles as related to various types of jealousy. *Personality and Individual Differences, 23*(6), 997-1006. doi: [http://dx.doi.org/10.1016/S0191-8869(97)00136-0](http://dx.doi.org/10.1016/S0191-8869(97)00136-0)


Chung, M. S. (2014). Pathways between attachment and marital satisfaction: The mediating roles of rumination, empathy, and forgiveness. *Personality and Individual Differences, 70*(0), 246-251. doi: [http://dx.doi.org/10.1016/j.paid.2014.06.032](http://dx.doi.org/10.1016/j.paid.2014.06.032)


King, D. B., & DeLongis, A. (2014). When couples disconnect: Rumination and withdrawal as...


Chapter 6: Relationship Rumination
emotional dysregulation for individuals with Cluster B personality disorders. Research on Social Work Practice, 14(6), 443-449. doi: http://dx.doi.org/10.1177/1049731504267332


Chapter 6: Relationship Rumination
Chapter 7: The Role of Rumination in Intimate Partner Violence and Post-Relationship Stalking
Chapter 7: Relationship Rumination in IPV and PRS

7.1 Table of Contents

7.1 The Role of Rumination in Intimate Partner Violence and Post-Relationship Stalking........ 157
7.1 Table of Contents .............................................................................................................. 158
7.2 Abstract ............................................................................................................................ 159
7.3 Introduction ...................................................................................................................... 160
  7.3.1 Rumination and post-relationship stalking. .............................................................. 160
  7.3.2 Rumination and intimate partner violence. .............................................................. 161
  7.3.3 The role of relationship rumination in IPV and PRS.............................................. 162
  7.3.4 Purpose of the current study. .................................................................................. 162
7.4 Method ............................................................................................................................ 163
  7.4.1 Sample...................................................................................................................... 163
  7.4.2 Measures and variable definitions. ........................................................................... 164
    7.4.2.1 Intimate partner violence. ................................................................................ 164
    7.4.2.2 Post-relationship stalking. ................................................................................. 165
    7.4.2.3 Perseverative Thinking Questionnaire (PTQ). ................................................... 165
    7.4.2.4 Relationship Rumination Questionnaire (RelRQ). ............................................. 166
    7.4.2.5 Impression management. ................................................................................. 166
  7.4.3 Procedure.................................................................................................................. 166
  7.4.4 Analyses .................................................................................................................... 166
7.5 Results ............................................................................................................................. 168
  7.5.1 Descriptive statistics. ............................................................................................... 168
  7.5.2 Post-relationship stalking. ....................................................................................... 168
  7.5.3 Intimate partner violence. ....................................................................................... 171
7.6 Discussion ....................................................................................................................... 172
  7.6.1 Relationship rumination and post-relationship stalking. ...................................... 173
  7.6.2 Relationship Rumination and IPV. ......................................................................... 174
  7.6.3 Limitations and future research. ............................................................................ 174
  7.6.4 Conclusions. ............................................................................................................ 175
7.7 References ....................................................................................................................... 175
7.2 Abstract

Intimate Partner Violence (IPV) and post-relationship stalking (PRS) affect millions of people worldwide. A range of individual differences and psychological processes have been associated with IPV and PRS, including attitudes about violence and insecure attachment. One social-cognitive process that has been theoretically implicated in both IPV and PRS is relationship rumination. To date there has been little well-designed research into the construct. The aim of the current study was to test if relationship rumination is associated with IPV and PRS after controlling for general rumination, victimisation, and impression management. The study employed a cross-sectional survey methodology using a sample of heterosexual university students (n = 913, 627 women). Relationship rumination predicted PRS in both genders but was not implicated in IPV. These results provide the first evidence of different psychological correlates for IPV and PRS perpetration, emphasising the importance of investigating PRS and IPV as related, but separate phenomena.

Keywords: intimate partner violence, domestic violence, stalking, rumination, attachment
Chapter 7: Relationship Rumination in IPV and PRS

7.3 Introduction

Intimate partner violence (IPV) and post-relationship stalking (PRS) are problematic behaviours that affect millions of people worldwide (Esquivel-Santoveña, Lambert, & Hamel, 2013; McEwan & Pathé, 2014; Mitchell & James, 2009). Intimate partner violence is defined as psychologically, physically, and sexually aggressive behaviour against a *current* intimate partner (Strauss, Hamby, Boney-McCoy, & Sugarman, 1996). Post-relationship stalking (PRS) may be defined as a pattern of targeted, repeated, and unwanted intrusive acts that can be reasonably expected to cause apprehension, distress, or fear in the victim, which occurs *after* a romantic relationship has dissolved (McEwan, Shea, Nazarewicz, & Senkans, in press; Mullen, Pathé, & Purcell, 2009).

A wide range of individual differences and psychological processes have been implicated in IPV and PRS. For example, insecure attachment (Douglas & Dutton, 2001; Mackenzie, Mullen, Ogloff, McEwan, & James, 2008), attitudes condoning IPV, PRS, or aggression in general (Capaldi, Knoble, Shortt, & Kim, 2012; McKeon, McEwan, & Luebbers, 2014; Senkans, McEwan, & Ogloff, Chapter 5, this thesis) and pathological personality traits (Capaldi et al., 2012; Douglas & Dutton, 2001; Mullen et al., 2009). Given the high rates of IPV and PRS in the community, continuing to refine the understanding of the individual differences and psychological processes that are involved in both behaviours is an important part of developing effective primary and secondary prevention strategies.

7.3.1 Rumination and post-relationship stalking. One process that has been strongly implicated in PRS is rumination on relationship goals (Cupach & Spitzberg, 2004; Cupach, Spitzberg, & Carson, 2000; Spitzberg & Cupach, 2007). In their Relational Goal Pursuit Theory (RGPT) of courtship persistence, Cupach, Spitzberg, and colleagues draw on Martin and colleagues’ rumination theory (e.g., Martin & Tesser, 1996; Martin, Tesser, & McIntosh, 1993), proposing that maladaptive rumination drives the persistent relationship pursuit that characterises PRS. Rumination is thought to maintain the cognitive salience of an unattainable relational goal, and occurs in conjunction with negative affect and rationalisation of rejection cues from the target. This spiral is thought to contribute to the maintenance of unwanted pursuit and stalking behaviours (Cupach & Spitzberg, 2004; Cupach et al., 2000; Spitzberg & Cupach, 2007).

Some recent studies have tested these hypotheses and provide preliminary support for the proposed role of rumination in the RGPT. In their sample of 433 (264 female) university students, Cupach, Spitzberg, Bolingbrooke, and Tellitoci (2011) found that ex-partner
preoccupation predicted relationship reconciliation persistence. Spitzberg, Cupach, Hannawa, and Crowley (2014) replicated Cupach et al.’s (2011) results in a sample of 334 (223 female) North American university students. They also found that cognitive preoccupation, breakup distress, and pursuit-related self-efficacy predicted pursuit. De Smet, Uzieblo, Loeys, Buysse, and Onraedt (2015) examined the link between partner preoccupation and unwanted pursuit behaviour in a sample of 631 Belgian adults who had experienced a breakup. Cognitive preoccupation with the ex-partner increased the odds of unwanted pursuit by 122% per SD-increase in rumination score.

Most studies on the link between rumination and PRS use measures of rumination that have been specifically developed for the respective study and have not been submitted to rigorous reliability and validity testing (Cupach et al., 2011; Spitzberg et al., 2014). All available studies focus on cognitive preoccupation with a specific ex-partner rather than a tendency to ruminate on relationships or a general tendency to engage in ruminative thinking. To further strengthen the evidence base of the role of rumination in PRS, the role of relationship rumination and general rumination should be investigated using validated instruments.

7.3.2 Rumination and intimate partner violence. The general aggression literature strongly suggests that rumination is a risk factor for aggression (Denson, 2013). In this literature, rumination is defined as the tendency to hold onto hostile thoughts after an interpersonal provocation, as a cognitive state (e.g., Bushman, Bonacci, Pedersen, Vasquez, & Miller, 2005). Anger rumination has also been examined from a trait perspective, as a stable cognitive tendency to focus on anger-inducing experiences (Caprara, 1986; Sukhodolsky, Golub, & Cromwell, 2001). Rumination is assumed to maintain or potentially exacerbate angry arousal states, prevent dissipation of aggressive affect, and temporarily deplete self-control, which presumably predisposes individuals to aggression (Denson, 2013; Eckhardt, Parrott, & Sprunger, 2015; Miller, Pedersen, Earleywine, & Pollock, 2003). A large number of correlational studies exist that link trait anger rumination to anger experiences and general aggression (Caprara, 1986; Denson, 2013; Sukhodolsky et al., 2001).

Watkins, DiLillo, and Maldonado (2015) studied the role of rumination in lab-analogous intimate partner aggression in an experimental study in 69 North-American heterosexual couples. Using a complex experimental design, they manipulated state rumination and alcohol intoxication. Trait anger rumination was measured using the Anger Rumination Scale (Sukhodolsky et al., 2001). The results of their study suggest that both angry state and trait rumination increased the likelihood of aggression towards an intimate partner, especially in
interaction with alcohol intoxication (Watkins et al., 2015). The only other study to specifically test the link between anger rumination and IPV was by Sotelo and Babcock (2013), who found a link between physical IPV perpetration and trait anger rumination (Caprara, 1986) in a sample of men with a recent history of IPV. Taken together the two studies strongly implicate angry rumination not only in general aggression, but also IPV.

### 7.3.3 The role of relationship rumination in IPV and PRS

Studies of rumination in the IPV literature have so far focussed on angry rumination, while stalking studies have emphasised cognitive preoccupation with an ex-partner. No studies to date have investigated the role of rumination about relationships and how such relationship rumination may be implicated in the two behaviours in similar or differing ways.

One body of literature that would suggest that relationship rumination is a shared correlate of both IPV and PRS is the attachment literature. Anxious attachment has consistently been linked to IPV, PRS, and many other types of relationship problems (e.g., Bartholomew & Allison, 2006; MacKenzie et al., 2008; Meloy, 1992; Mikulincer & Shaver, 2007; Ogilvie, Newman, Todd, & Peck, 2014). Anxious attachment is characterised by rumination about past and possible future relationship threat experiences (Mikulincer & Shaver, 2007). One previous study supports a strong association between relationship rumination and anxious attachment, demonstrating a strong positive correlation between measures of the two constructs in a sample of Australian adults (Senkans, McEwan, Skues, & Ogloff, 2016).

While relationship rumination may be a shared correlate of IPV and PRS, the existing research indicates that the content of rumination may differ between the two behaviours. In the context of IPV, ruminations would encompass negative repetitive thinking regarding relational transgressions (e.g., Wade, Vogel, Liao, & Goldman, 2008; Watkins et al., 2015). In contrast, ruminations implicated in PRS may revolve around the characteristics of the lost partner, the lost relationship, and relationship memories (Cupach et al., 2011; Senkans et al., 2016; Spitzberg et al., 2014).

### 7.3.4 Purpose of the current study

The aim of the study was to test whether associations between relationship rumination and IPV and PRS are similar or different. The study also aimed to test how robust these relationships were by controlling for four variables: 1) Gender; 2) Impression management; 3) Victimisation experiences; and 4) General Rumination.

Studies consistently suggest that the links between psychological variables and aggression vary by gender (e.g., Archer, 2004; Bettencourt & Miller, 1996; Senkans et al.,...
Chapter 5, this thesis). To avoid overestimating the importance of psychological variables in aggression and violence (Card, 2011), this study further controlled for victimisation experiences (Langhinrichsen-Rohling, 2006; Langhinrichsen-Rohling, Misra, Selwyn, & Rohling, 2012). Lastly, rumination is associated with a wide range of psychopathology and interpersonal problems (Ehring et al., 2011; Ingram, 1990). This current study also aimed to establish if the relationship rumination-aggression-link holds after participants’ general tendency to ruminate is taken into account.

We hypothesised that there would be a link between both relationship rumination and IPV and relationship rumination and stalking after the above variables were controlled for. We also hypothesised that different facets of relationship rumination would be differently associated with IPV and stalking. We expected relationship uncertainty rumination to be most predictive of IPV and romantic preoccupation and breakup rumination most predictive of PRS.

7.4 Method

7.4.1 Sample. Course credits were used to compensate 1,000 undergraduate students for participating. This study was part of a larger research project (Senkans, 2016). Eighty-three percent \( (n = 834) \) identified as exclusively heterosexual, eight percent as predominantly heterosexual \( (n = 80) \), 3.5% \( (n = 35) \) as bisexual, and 3.5% \( (n = 35) \) as exclusively or predominantly homosexual. Sixteen individuals (1.6%) did not want to specify their sexual orientation or ticked “other”. The sample used in this paper comprises individuals who indicated they were exclusively or predominantly heterosexual. One further participant was excluded as they did not want to specify their gender. The final sample comprised 913 participants. These participants were between 18-68 years old \( (M = 31.01, SD = 10.32) \) and 68.7% \( (n = 627) \) of the sample were female. The median income was AUD$30,000 – $40,000 \( (Q_1 = $10,000 – $20,000; Q_3 = $60,000 – $80,000) \), less than the average Australian income of approx. $60,000 (Australian Bureau of Statistics, 2016). The remaining demographic details are illustrated in Table 7.1.
Table 7.1 Demographic Characteristics of Participants (n = 913).

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian (including Aboriginal and Combined)</td>
<td>785</td>
<td>86.0</td>
</tr>
<tr>
<td>Various European</td>
<td>40</td>
<td>4.4</td>
</tr>
<tr>
<td>Various Asian</td>
<td>21</td>
<td>2.3</td>
</tr>
<tr>
<td>Southern or Eastern African</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>North African or Middle Eastern</td>
<td>7</td>
<td>0.8</td>
</tr>
<tr>
<td>New Zealander or Maori</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>North American</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>Mixed (non-Australian)</td>
<td>13</td>
<td>1.4</td>
</tr>
<tr>
<td>Did not specify</td>
<td>35</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum secondary school</td>
<td>868</td>
<td>95.1</td>
</tr>
<tr>
<td>Diploma or certificate</td>
<td>406</td>
<td>44.5</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>140</td>
<td>15.3</td>
</tr>
<tr>
<td>Postgraduate degree</td>
<td>35</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>First language</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>832</td>
<td>91.1</td>
</tr>
<tr>
<td>Other</td>
<td>81</td>
<td>8.9</td>
</tr>
<tr>
<td><strong>Relationship status at time of participation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In a relationship</td>
<td>620</td>
<td>67.9</td>
</tr>
<tr>
<td>Single</td>
<td>293</td>
<td>32.1</td>
</tr>
<tr>
<td><strong>Experienced a breakup</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>829</td>
<td>90.8</td>
</tr>
<tr>
<td>No</td>
<td>84</td>
<td>9.2</td>
</tr>
</tbody>
</table>

### 7.4.2 Measures and variable definitions.

#### 7.4.2.1 Intimate partner violence.

Intimate partner violence perpetration and victimization was assessed using the full Revised Conflict Tactics Scale (CTS-2; Strauss et al., 1996). The total Cronbach’s α was .79 for perpetration and .95 for victimization in our study. Participants answered perpetration and victimization items on a frequency scale ranging from *Never*, *Once*, *Twice*, *3-5 times*, *6-10 times*, *11-20 times*, and *More than 20 times*. Participants were instructed to answer the CTS-2 based on their most conflicted relationship. To take into account the prevalence, frequency, and severity of IPV acts, we computed an ordinal IPV severity variable (described in Table 7.2). We computed separate perpetration and victimization...
variables for all IPV variables using the same criteria, applying to victimization and perpetration items, respectively.

Table 7.2 Coding Rules for the Ordinal IPV Severity Variables Created Using Responses on the CTS-2.

<table>
<thead>
<tr>
<th>IPV Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPV severity</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

7.4.2.2 Post-relationship stalking. Stalking perpetration and victimisation was measured using an analogous scale to the CTS-2. The scale covers all types of pursuit behaviours described by Cupach and Spitzberg (e.g., 2004; 2007): Hyper-intimacy, mediated contact, interactional contact, surveillance, invasion, harassment, threats, and violence. Cronbach’s alpha of the full PTS was $\alpha = .89$ for victimisation and $\alpha = .71$ for perpetration. Participants answered perpetration and victimisation items on a frequency scale ranging from Never, Once, Twice, 3-5 times, 6-10 times, 11-20 times, and More than 20 times. Participants were also asked how long their pursuit behaviour and their partner was ongoing. Response categories were More than a fortnight, Less than a fortnight, and Not Applicable. Participants were instructed to focus on a time when they themselves and/or an ex-partner have struggled to let go of a relationship and they and/or the ex-partner had continued contact or pursuit behaviour despite the respective other telling them to stop. We used empirically derived criteria to classify participants into stalkers and PRS victims and non-victims. Participants who reported perpetrating or experiencing more than 5 intrusions (Thompson & Dennison, 2008) over a time frame of longer than two weeks (Purcell, Pathé, & Mullen, 2004) were classified as stalkers or stalking victims, respectively.

7.4.2.3 Perseverative Thinking Questionnaire (PTQ). The PTQ (Ehring et al., 2011) was used to assess participants' general tendency to engage in ruminative thinking. The 15-item PTQ
is a measure of general ruminative thinking style is scored on a 5-point Likert-type scale ranging from never to almost always. The PTQ has reported internal consistency of $\alpha = .94$ to $.95$ and test-retest reliability of $r_{tt} = .69$. In the current sample internal consistency of the PTQ was $\alpha = .96$.

### 7.4.2.4 Relationship Rumination Questionnaire (RelRQ)

The 16-item RelRQ was used to assess participants’ tendency to engage in relationship rumination. The romantic preoccupation scale comprises five items, the relationship uncertainty rumination scale six items, and the breakup rumination scale five items. Cronbach’s $\alpha$ values in the development sample were: total scale = .91, RP = .90, RU = .92 and BU = .91. In the current sample, Cronbach’s $\alpha$ values were: total scale = .93, RP = .93, RU = .92 and BU = .91. In the development study, the RelRQ showed moderate to strong correlations with relevant constructs such as insecure attachment orientations, other types of rumination, negative affect, and emotion dysregulation. The instructions detailed in section 6.4.2.1 (Senkans et al., 2016) were provided to participants. A 5-point Likert-type scale from almost never to almost always was used.

### 7.4.2.5 Impression management

We used the Impression Management (IM) subscale of the Balanced Inventory of Desirable Responding (BIDR-6) (Paulhus, 1991) as a control variable in regression models. The IM scale consist of 20 items that test the conscious tendency to portray oneself in a socially desirable light. Participants answer on a 7-point Likert-type scale ranging from not true to very true Paulhus (1991) summarised available validation studies. Cronbach’s alpha ranged from .75 to .86 for the IM scale and has a test-retest reliability of .65 over a 5 week period. It shows strong correlations with other measures of socially desirable responding (Paulhus, 1991). In the current sample, Cronbach’s alpha was .81.

### 7.4.3 Procedure

After providing informed consent and demographic information, participants completed eight questionnaires in random order in an online survey using the platform SurveyMonkey™. Items were randomised within questionnaires. This study uses three of those questionnaires. Then, participants completed the CTS-2 and STS measuring IPV and PRS perpetration and victimisation. Upon completion of the survey, participants were thanked and could access debriefing information regarding support services on an external website and received an additional debriefing sheet via email that explained the theoretical background, variables, and the purpose of the study. This study protocol was approved by the Swinburne University Human Research Ethics Committee.

### 7.4.4 Analyses

All analyses were conducted using SPSS v23 (IBM, 2015). All predictor variables were dichotomized using median splits ($0: x \leq \text{median}; 1: x > \text{median}$) to increase
analytic parsimony and ease interpretation and communication of effects in logistic regression models (Iacobucci, Posavac, Kardes, Schneider, & Popovich, 2015a; Iacobucci, Posavac, Kardes, Schneider, & Popovich, 2015b). To identify candidate predictors, univariate analyses using the χ² statistic and odds ratios were calculated for binary variables (Hosmer, Lemeshow, & Sturdivant, 2013). Odd ratios above or equal to 2.0 indicate a practically significant (small) effect, OR = 3 moderate effect, and OR = 4 and larger indicate strong effects (Ferguson, 2009). To compare mean rank, Mann-Whitney U analyses were employed for continuous variables. We used the probabilistic effect size θ. A small effect size is θ = .56, a medium effect is θ = .64, and a strong effect is θ = .70 (Acion, Peterson, Temple, & Arndt, 2006).

Binary logistic regression (LR) was used to test if RelRQ subscales were associated with PRS or IPV beyond victimisation experience, impression management, and PTQ (general rumination). Variables that were significant in univariate analyses were added using hierarchical block entry.

Collinearity between explanatory variables was examined using the collinearity diagnostic variance inflation factors (VIFs) and tolerance statistics. A VIF = 1 indicates orthogonal predictors. Thus, values of close to one are desired, while values above 10 indicate collinearity. Tolerance statistics lower than .01 indicate collinearity. In addition, the output was screened for exceedingly large standard errors (Belsley, Kuh, & Welsch, 1980; Dormann et al., 2013; Field, 2009; Mansfield & Helms, 1982; Menard, 2002; Tabachnick & Fidell, 2013). No issues with collinearity were detected. Explanatory variables were excluded based on the Wald statistic (Field, 2009; Harrell, 2015; J. D. W. Hosmer, Lemeshow, & Sturdivant, 2013; Tabachnick & Fidell, 2013). Using the Wald statistic and the likelihood ratio test, models were simplified, fitted and re-fitted, using an iterative process. Estimated coefficients of predictors and their Δβ’s were examined to prevent the exclusion of important predictors based on the Wald statistic alone (J. D. W. Hosmer et al., 2013).

Goodness of model fit was assessed using the Hosmer and Lemeshow Test, which is based on deciles of predicted probability (Harrell, 2015; D. W. Hosmer & Lemeshow, 1980; Menard, 2002). Nagelkerke $R^2$ was used as a measure of Pseudo-$R^2$. However, Nagelkerke $R^2$ is not equivalent to variance explained as in linear regression models (Harrell, 2015; J. D. W. Hosmer et al., 2013), so needs to be interpreted with caution. Linearity in the logit of continuous predictors was tested for full and final models using the procedure recommended by (Field, 2009). This assumption was met for all models.
Chapter 7: Relationship Rumination in IPV and PRS

7.5 Results.

Age, education level, income, and ethnicity (Any Australian vs. Other) were unrelated to all outcome variables. Native language was unrelated to IPV severity. Individuals who had English as a first language were more likely to be classified as stalkers \((\chi^2 = 4.10, p = .043, OR = 2.15, CI 1.00, 4.58)\). Due to the small effect size and small group of non-English native speakers this was not further considered in the main analyses. Men and women did not differ on the PTQ \((U = 87164.50, p = .499, \Theta = .51)\) or any RelRQ subscales \((RP: U = 84645.50, p = .168, \Theta = .53; RU: U = 88190.50, p = .690, \Theta = .51; BU: U = 87226.00, p = .503, \Theta = .51)\), so median splits were performed across gender.

7.5.1 Descriptive statistics. Predictors measured using a Likert-type scale (PTQ and RelRQ subscales) were dichotomised using median splits to ease interpretation of effects in logistic regression models (see Table 7.3). Participants under or on the median were classified as low on the respective rumination variable, while participants over the median were classified as high.

Table 7.3 Descriptive Statistics of Rumination Predictors \((n = 913)\).

<table>
<thead>
<tr>
<th>Scale</th>
<th>Md</th>
<th>Q1</th>
<th>Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTQ</td>
<td>25</td>
<td>18</td>
<td>32</td>
</tr>
<tr>
<td>RelRQ RP</td>
<td>9</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>RelRQ RU</td>
<td>11</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>RelRQ BU</td>
<td>8</td>
<td>5</td>
<td>11</td>
</tr>
</tbody>
</table>

Note. PTQ = Perseverative Thinking Questionnaire; RelRQ RP = Relationship Rumination Questionnaire Romantic Preoccupation subscale; RelRQ RU = Relationship Uncertainty Subscale; RelRQ BU = Breakup Rumination subscale.

7.5.2 Post-relationship stalking. Eighty-four participants had never experienced the breakup of a romantic relationship and thus were ineligible to complete the STS. Another two participants had missing data on the STS and were also excluded from the following analyses, leaving a sample of \(n = 827\), of whom 177 (21.4%) were classified as perpetrating stalking. Stalkers of both genders scored significantly lower \((Md = 57, Q1 = 44, Q3 = 65.50)\) on IM than non-stalkers \((Md = 61, Q1 = 50, Q3 = 74; U = 46552.00, p < .001, \Theta = .60)\). Table 7.4 reports univariate associations of predictor variables and PRS by gender. It illustrates that predictors attained small to strong effect sizes in men and small to moderate effect sizes in women. Thus, gender-sensitive regression models were developed.

Chapter 7: Relationship Rumination in IPV and PRS
Table 7.4 Frequencies (and respective tests) for Predictor Variables as a Function of PRS perpetration (present vs. absent).

<table>
<thead>
<tr>
<th>Variable</th>
<th>PRS perpetration absent</th>
<th>PRS perpetration present</th>
<th>χ² (1)</th>
<th>p</th>
<th>Effect Size OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (n = 261)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTQ (n, % high)</td>
<td>86, 43.4%</td>
<td>37, 58.7%</td>
<td>4.49</td>
<td>.042</td>
<td>1.85</td>
</tr>
<tr>
<td>RelRQ RP (n, % high)</td>
<td>94, 47.5%</td>
<td>40, 63.5%</td>
<td>4.91</td>
<td>.030</td>
<td>1.92</td>
</tr>
<tr>
<td>RelRQ RU (n, % high)</td>
<td>88, 44.4%</td>
<td>39, 61.9%</td>
<td>5.83</td>
<td>.020</td>
<td>2.03</td>
</tr>
<tr>
<td>RelRQ BU (n, % high)</td>
<td>77, 38.9%</td>
<td>43, 68.3%</td>
<td>16.59</td>
<td>.000</td>
<td>3.38</td>
</tr>
<tr>
<td>PRS Victimisation (n, % present)</td>
<td>47, 23.7%</td>
<td>39, 61.9%</td>
<td>31.51</td>
<td>.000</td>
<td>5.22</td>
</tr>
<tr>
<td>Female (n = 566)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTQ (n, % high)</td>
<td>203, 44.9%</td>
<td>67, 58.8%</td>
<td>7.01</td>
<td>.009</td>
<td>1.75</td>
</tr>
<tr>
<td>RelRQ RP (n, % high)</td>
<td>193, 42.7%</td>
<td>58, 50.9%</td>
<td>2.47</td>
<td>.140</td>
<td>1.39</td>
</tr>
<tr>
<td>RelRQ RU (n, % high)</td>
<td>222, 49.1%</td>
<td>65, 57.0%</td>
<td>2.28</td>
<td>.143</td>
<td>1.37</td>
</tr>
<tr>
<td>RelRQ BU (n, % high)</td>
<td>185, 40.9%</td>
<td>64, 56.1%</td>
<td>8.55</td>
<td>.004</td>
<td>1.85</td>
</tr>
<tr>
<td>PRS Victimisation (n, % present)</td>
<td>236, 52.2%</td>
<td>88, 77.2%</td>
<td>23.21</td>
<td>.000</td>
<td>3.10</td>
</tr>
</tbody>
</table>

Note. PTQ = Perseverative Thinking Questionnaire; RelRQ RP = Relationship Rumination Questionnaire Romantic Preoccupation subscale; RelRQ RU = Relationship Uncertainty Subscale; RelRQ BU = Breakup Rumination subscale; IM = Impression Management.

Impression management was entered first (Block 1), then victimisation (Block 2), then PTQ (Block 3), then RelRQ subscales (Block 4). In the male subsample, Blocks 1, 2, and 4 were significant. Block 3 was insignificant and was removed from the model. In Block 4, only RelRQ BU remained significant (see Table 7.5). In the female subsample, Blocks 1, 2, and 3 were significant. Block 4 overall was insignificant, but RelRQ BU was significant. After removal of insignificant RelRQ predictors, Block 4 became significant and Block 3 became insignificant (see Table 7.5).
Table 7.5 Summary of Logistic Regression Analyses Predicting PRS (absent vs. present) by Gender.

<table>
<thead>
<tr>
<th>Block</th>
<th>Predictor</th>
<th>B</th>
<th>SE</th>
<th>OR</th>
<th>95% CI</th>
<th>Wald statistic</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>(Constant)</td>
<td>-1.39</td>
<td>.63</td>
<td>.25</td>
<td>[   .13, 4.83]</td>
<td>4.86</td>
<td>.027</td>
</tr>
<tr>
<td>1</td>
<td>IM</td>
<td>-.02</td>
<td>.01</td>
<td>.98</td>
<td>[.96, 1.00]</td>
<td>4.33</td>
<td>.037</td>
</tr>
<tr>
<td>2</td>
<td>PRS Victimisation</td>
<td>1.70</td>
<td>.33</td>
<td>5.50</td>
<td>[2.90, 10.46]</td>
<td>27.00</td>
<td>.000</td>
</tr>
<tr>
<td>4</td>
<td>RelRQ BU</td>
<td>1.27</td>
<td>.33</td>
<td>3.57</td>
<td>[1.86, 6.87]</td>
<td>14.52</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>(Constant)</td>
<td>-1.42</td>
<td>.46</td>
<td>.24</td>
<td>[   .14, 2.86]</td>
<td>9.74</td>
<td>.002</td>
</tr>
<tr>
<td>1</td>
<td>IM</td>
<td>-.02</td>
<td>.01</td>
<td>.98</td>
<td>[.97, 1.00]</td>
<td>7.00</td>
<td>.008</td>
</tr>
<tr>
<td>2</td>
<td>PRS Victimisation</td>
<td>1.18</td>
<td>.25</td>
<td>3.24</td>
<td>[2.00, 5.25]</td>
<td>22.68</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>RelRQ BU</td>
<td>.62</td>
<td>.22</td>
<td>1.86</td>
<td>[1.21, 2.85]</td>
<td>7.94</td>
<td>.005</td>
</tr>
</tbody>
</table>

Goodness-of-fit-statistic

Hosmer and Lemeshow Test

\[ df = 8 \quad \chi^2 = 5.76 \quad .674 \]

Pseudo R^2

Nagelkerke R Square .268

Goodness-of-fit-statistic

Hosmer and Lemeshow Test

\[ df = 8 \quad \chi^2 = 11.08 \quad .197 \]

Pseudo R^2

Nagelkerke R Square .112

Note: IM = Impression Management; RelRQ BU = Relationship Rumination Questionnaire Breakup Rumination Subscale; OR, Odds ratio; CI, confidence interval; df, degrees of freedom.

In both models, higher IM decreased the odds of PRS perpetration. In men, PRS victimisation increased the odds of PRS perpetration more than five-fold \((OR = 5.50)\) (note that victimisation and perpetration did not necessarily involve the same dyads). In women, PRS victimisation also increased the odds of PRS perpetration \((OR = 3.27)\), though with a smaller effect size. This difference was not statistically significant \((z = 1.26, p = .104)\). Men who scored high on breakup rumination were more than three times as likely to be PRS perpetrators than men who scored low on breakup rumination \((OR = 3.57)\). In the female subsample, breakup rumination also increased the risk of PRS perpetration in women, but with a lower effect size \((OR = 1.86)\). The effect size was significantly stronger in men than in women \((z = 1.64, p = .051, \text{ (Gung, 2015, March 25)})\).
7.5.3 Intimate partner violence. Thirty-four participants reported on an on-off relationship or did not want to report the relationship duration. These participants had to be excluded in the LR analyses as relationship duration was related to IPV severity on a univariate level (see Table 7.6). Participants classified as none/low severity IPV perpetrators scored significantly higher on IM ($\text{Md} = 63, Q_1 = 53.50, Q_3 = 75$) as compared to mod/high severity IPV perpetrators ($\text{Md} = 59, Q_1 = 47, Q_3 = 71; U = 85279.50, p < .001, \Theta = .59$). In contrast, participants classified as mod/high severity IPV reported on significantly longer relationships ($\text{Md} = 5, Q_1 = 4, Q_3 = 5$) than none/low severity IPV perpetrators ($\text{Md} = 5, Q_1 = 3, Q_3 = 5; U = 88207.50, p = .033, \Theta = .57$). Effect sizes did not differ between men and women, with all rumination predictors attaining small effect sizes (results not reported here). Thus, the model was developed across gender.

Table 7.6 Frequencies and Chi-Square tests for Predictor Variables as a Function of IPV perpetration severity (none/low vs. mod/high).

<table>
<thead>
<tr>
<th>Variable</th>
<th>IPV perpetration none/low ($n = 405$)</th>
<th>IPV perpetration mod/high ($n = 508$)</th>
<th>$\chi^2$ (1)</th>
<th>$p$</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTQ ($n, %$ high)</td>
<td>185, 45.7</td>
<td>259, 51.0</td>
<td>2.54</td>
<td>.111</td>
<td>1.24</td>
</tr>
<tr>
<td>ReIRQ RP ($n, %$ high)</td>
<td>168, 41.5</td>
<td>250, 49.2</td>
<td>5.43</td>
<td>.020</td>
<td>1.46</td>
</tr>
<tr>
<td>ReIRQ RU ($n, %$ high)</td>
<td>173, 42.7</td>
<td>275, 54.1</td>
<td>11.76</td>
<td>.001</td>
<td>1.58</td>
</tr>
<tr>
<td>ReIRQ BU ($n, %$ high)</td>
<td>155, 38.3</td>
<td>239, 47.0</td>
<td>7.07</td>
<td>.008</td>
<td>1.43</td>
</tr>
<tr>
<td>Gender ($n, %$ males)</td>
<td>150, 37.0</td>
<td>136, 26.8</td>
<td>11.04</td>
<td>.001</td>
<td>1.61</td>
</tr>
<tr>
<td>IPV Victimisation ($n, %$ mod/high)</td>
<td>147, 36.3</td>
<td>446, 87.8</td>
<td>262.53</td>
<td>.000</td>
<td>12.62</td>
</tr>
</tbody>
</table>

Note. PTQ = Perseverative Thinking Questionnaire; ReIRQ RP = Relationship Rumination Questionnaire Romantic Preoccupation subscale; ReIRQ RU = Relationship Uncertainty Subscale; ReIRQ BU = Breakup Rumination subscale; IM = Impression Management.

There was no relationship between PTQ score and IPV perpetration so the variable was not added to the model. Gender and IM were entered first (Block 1), then relationship duration and IPV victimisation (Block 2), then relationship rumination predictors (Block 3). The final model is shown in Table 7.7. Impression management negatively predicted higher IPV severity. Individuals who experienced mod/high severity IPV victimisation were more than 11 times more likely to report mod/high severity IPV perpetration. In addition, the longer the relationship that participants reported on lasted, the higher the odds for higher severity IPV. Controlling for these
variables, RelRQ RP significantly predicted IPV perpetration, although with a small effect size.

### Table 7.7 Summary of Logistic Regression Analyses Predicting IPV perpetration severity (none/low vs. mod/high).

<table>
<thead>
<tr>
<th>Block</th>
<th>Predictor</th>
<th>B</th>
<th>SE</th>
<th>OR</th>
<th>95% CI</th>
<th>Wald statistic</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>(Constant)</td>
<td>-1.97</td>
<td>.52</td>
<td>1</td>
<td>[1.00, 1.98]</td>
<td>14.18</td>
<td>.000</td>
</tr>
<tr>
<td>1</td>
<td>IM</td>
<td>-.01</td>
<td>.01</td>
<td>0.99</td>
<td>[.98, 1.00]</td>
<td>7.64</td>
<td>.006</td>
</tr>
<tr>
<td>2</td>
<td>Relationship Duration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Less than 3 months a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 – 6 months</td>
<td>.88</td>
<td>.51</td>
<td>2.41</td>
<td>[.89, 6.56]</td>
<td>2.96</td>
<td>.085</td>
</tr>
<tr>
<td></td>
<td>6 months – 1 year</td>
<td>1.10</td>
<td>.46</td>
<td>3.02</td>
<td>[1.23, 7.43]</td>
<td>5.77</td>
<td>.016</td>
</tr>
<tr>
<td></td>
<td>1 – 2 years</td>
<td>1.57</td>
<td>.46</td>
<td>4.81</td>
<td>[1.97, 11.75]</td>
<td>11.88</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>2+ years</td>
<td>1.31</td>
<td>.42</td>
<td>3.69</td>
<td>[1.63, 8.35]</td>
<td>9.78</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>IPV victimisation</td>
<td>2.48</td>
<td>.18</td>
<td>11.96</td>
<td>[8.46, 16.91]</td>
<td>197.15</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>RelRQ, RP</td>
<td>.34</td>
<td>.17</td>
<td>1.41</td>
<td>[1.01, 1.97]</td>
<td>3.96</td>
<td>.047</td>
</tr>
</tbody>
</table>

**Goodness-of-fit-statistic**

Hosmer and Lemeshow Test: $df = 8$, $\chi^2 = 5.04$, .754

**Pseudo $R^2$**

Nagelkerke R Square: .372

*Note: IM = Impression Management; RelRQ RU = Relationship Rumination Questionnaire Relationship Uncertainty Subscale; OR, Odds ratio; CI, confidence interval; df, degrees of freedom.*

*Reference category.

### 7.6 Discussion.

The study investigated whether relationship-specific rumination was related to IPV and PRS after controlling for victimisation experiences, impression management, and general rumination. While a link between relationship rumination and both types of problem behaviour was hypothesised, only PRS and relationship rumination were meaningfully related.
7.6.1 Relationship rumination and post-relationship stalking. Male participants who scored high on a facet of relationship rumination, breakup rumination, had more than three times the odds of being classified a PRS perpetrator as compared to men low on breakup rumination. Women high on breakup rumination were almost twice as likely to be classified as a PRS stalker than low ruminators. These findings add substantially to the emerging body of literature implicating relationship rumination in ex-partner stalking (Cupach et al., 2011; De Smet et al., 2015; Spitzberg et al., 2014). Previous studies have focussed on cognitive preoccupation with a specific ex-partner whereas these results indicate that a tendency to ruminate about breakups in general is also implicated in PRS. Using a robust measure of relationship rumination, our study confirmed the association between relationship rumination and stalking in a large Australian sample. Our study also indicates that the association remains significant after impression management, victimisation experiences, and general rumination were taken into account, variables which previously have not been controlled for.

While De Smet et al. (2015) found that increases in partner preoccupation were associated with a greater increase in stalking behaviours among female than male ex-partners, our study indicated that breakup rumination was more strongly implicated in male perpetration. This may be due to different measurements of rumination and stalking, or using a dichotomous versus continuous outcome variable. Given the explanatory nature of the current research, this warrants further study.

Another avenue of future research concerns how relationship rumination is implicated in different types of relational stalking, i.e., post-relationship stalking vs. stalking that occurs in the context of wanting a relationship (Cupach & Spitzberg, 2004; Cupach et al., 2000; Mullen et al., 2009; Spitzberg et al., 2014). Although romantic preoccupation was higher amongst individuals who were classified as PRS perpetrators, it had no unique predictive relationship in multivariate models of stalking. It could be that romantic preoccupation is more uniquely predictive of relational pursuit to initiate a relationship rather than PRS, which was the focus of the current study. This may be because individuals who are romantically preoccupied are more likely to stake their self-worth and happiness in a potential relationship, which may especially drive the pursuit of new and potential relationships (Cupach et al., 2000; Yanowitz, 2006). If this hypothesis was confirmed in future research, this would suggest that different themes of rumination play a role in stalking occurring in different contexts.

This study has some important implications for both stalking theory and interventions. The results provide further evidence supporting relationship rumination as a factor in stalking.
and the empirical adequacy of RGPT. However, many open questions remain. For example, rumination may mediate the link between PRS and breakup distress, which is one of the most significant predictors of relational pursuit behaviours (De Smet, Loeys, & Buysse, 2012). A number of studies tentatively suggest that rumination may exacerbate or maintain, such breakup distress (Fagundes, 2012; Safray & Ehrenberg, 2007). If the identified association is replicated in future research, interventions could target rumination and inaccurate positive meta-cognitions about rumination in stalking perpetrators (Denson, 2013; Papageorgiou & Wells, 2003). Mindfulness interventions could strengthen self-regulation by increasing self-awareness, acceptance of negative emotional states, and frustration tolerance and thereby reduce maladaptive pursuit behaviour (Borders, Earleywine, & Jajodia, 2010; Shorey, Seavey, Quinn, & Cornelius, 2013; Sotelo & Babcock, 2013).

7.6.2 Relationship Rumination and IPV. The results showed that one type of relationship rumination, romantic preoccupation, marginally predicted increased IPV severity, after taking into account other significant predictors. While this relationship was statistically significant, the effect size of the predictor was too small to be practically meaningful. On a univariate level, all three types of relationship rumination predicted IPV, however with very small effect sizes. General rumination and IPV were unrelated, even at the univariate level. The very large effect sizes for IPV victimisation are consistent with meta-analyses and systematic reviews that support a strong link between physical IPV perpetration and victimisation (Langhinrichsen-Rohling et al., 2012; Stith, Smith, Penn, Ward, & Tritt, 2004).

The null finding regarding relationship rumination and IPV suggests that future studies should continue to focus on the role of anger rumination in IPV rather than themes of relationship rumination (Eckhardt et al., 2015; Sotelo & Babcock, 2013; Watkins et al., 2015). Some research also implicates angry rumination in stalking (Marquez, 2013). Future research should test how angry rumination may be implicated in PRS.

7.6.3 Limitations and future research. While our sample was rather diverse in terms of age, ethnicity, and gender, most participants were highly educated and spoke English as their first language. More diverse samples, including participants in same-sex partnerships, should be used to elucidate the potential role of relationship-specific rumination in IPV and PRS. This study used self-report data from only one relationship partner, which, along with impression management, may lead to inaccurate ascertainment of IPV and PRS. However, our study controlled for the effects of impression management. In addition, memory biases may have affected our results as participants reported retrospectively on their partner’s and their own
behaviour.

Future experimental research could examine how high and low relationship ruminators react to upsetting relationship events or experimentally manipulate state rumination (Watkins et al., 2015). This research could probe the mechanisms that underlie the rumination and stalking link. Future studies should also include other rumination measures (e.g., anger rumination) and measures of individual differences (e.g., insecure attachment) and situational variables beyond victimisation. Finally, rumination may not cause relationship aggression, but be the consequence of engaging in abusive behaviours in romantic relationship contexts. In addition, a third variable such as poor or depleted self-regulation may explain the link between this thinking style and aggressive behaviour (Baumeister, Vohs, & Tice, 2007; Eckhardt et al., 2015; Finkel, DeWall, Slotter, Oaten, & Foshee, 2009; Senkans et al., 2016). Stronger research designs are needed for researchers to be able to draw firmer conclusions regarding the rumination-aggression link in romantic relationship contexts.

7.6.4 Conclusions. Overall our results suggest that relationship rumination was much more strongly linked to PRS than IPV. This provides further empirical support to Spitzberg, Cupach, and colleagues’ RGPT (2000) of stalking. Our study showed that the tendency to ruminate about breakups was predictive of PRS beyond the effects of general rumination and victimisation, confirming and adding to existing findings. The effect was stronger in men than in women. This study strongly suggests that IPV and PRS have different psychological correlates, meaning that the common practice of treating post-relationship stalking as merely a part or extension of IPV may be misguided (Mullen et al., 2009; Stark, 2007; Walker & Meloy, 1998). These results emphasise the importance of investigating PRS and IPV as related, but separate phenomena (Douglas & Dutton, 2001; McEwan et al., in press; Senkans, McEwan, & Ogloff, Chapter 4, this thesis).

7.7 References


Bartholomew, K., & Allison, C. J. (2006). An attachment perspective on abusive dynamics in
Chapter 7: Relationship Rumination in IPV and PRS

intimate relationships. In M. Mikulincer & G. S. Goodman (Eds.), *Dynamics of Romantic Love: Attachment, Caregiving, and Sex*. New York, NY, USA: Guilford Press.


Chapter 7: Relationship Rumination in IPV and PRS
Chapter 7: Relationship Rumination in IPV and PRS

race/ethnicities: A comprehensive review. Partner Abuse, 3(2), 199-230. doi: http://dx.doi.org/10.1891/1946-6560.3.2.199


Marquez, A. (2013). Emotional, social, and cognitive correlates of stalking and intrusive harassment. (PhD), University of Nebraska-Lincoln, Nebraska, USA. Retrieved from http://digitalcommons.unl.edu/psychdiss/56/


Chapter 7: Relationship Rumination in IPV and PRS

Chapter 8: Integrated Discussion
## Table of Contents

### Chapter 8: Integrated Discussion

8.1 Table of Contents

- Integrated Discussion Chapter ................................................................. 181
- Table of Contents .................................................................................. 182
- General Discussion of the Research Findings ........................................ 185
  - Research Aim 1: Understanding the interconnectedness of intimate partner violence and post-relationship stalking ................................................................. 186
  - Research Aim 2: Understanding cognition involved in intimate partner violence and post-relationship stalking ................................................................. 189
    - Antisocial and aggressive cognition ......................................................... 190
    - Relationship cognition: Entitlement ..................................................... 193
    - Relationship cognition: Rumination ..................................................... 196
  - Summary .............................................................................................. 199
- Beyond the thesis research questions ...................................................... 199
  - Does violence towards partners have a special aetiology? .................... 200
  - Gendered or gender-neutral research? The case for gender-sensitive research ...................................................... 201
  - Disentangling aspects of the adult attachment construct ...................... 203
  - Implications for social-cognitive aggression theories ......................... 204
- A critical reflection of the research methodology and methods or techniques ...................................................... 207
  - Sample ............................................................................................... 207
  - Study design, statistical analyses, and self-report methodology ............ 207
- Implications for Research and Future Directions .................................... 210
- Practical Implications ............................................................................. 214
- Conclusions .......................................................................................... 216
8. Integrated Discussion Chapter

This thesis sought to add to the existing literature on intimate partner violence (IPV) and post-relationship stalking (PRS). It addressed two research aims on inter-related gaps in the IPV and stalking literatures: Research Aim 1) The inter-connectedness of IPV and stalking; and, Research Aim 2) Cognition involved in IPV and stalking.

The interconnectedness of IPV and PRS remains relatively poorly understood (Douglas & Dutton, 2001; McEwan, Shea, Nazarewicz, & Senkans, in press). This is a significant gap in the literature, given that interconnectedness research can advance theoretical understanding of both behaviours, and clinical approaches to preventing them. As noted by Hamby and Grych (2013), moving away from hyper-specialised silos towards recognising and understanding how different forms of interpersonal violence are interconnected could propel theoretical models, expand the relevant knowledge base, and inform interventions (Hamby & Grych, 2013).

One reason that different forms of interpersonal violence often co-occur is because they share common risk markers, which indicate similar underlying mechanisms that produce many different types of interpersonal violence (Hamby & Grych, 2013). Common psychological risk markers for IPV and PRS that have previously been identified are insecure romantic attachment, personality pathology, general or specific aggressive attitudes, and gender-related cognition (e.g., Bartholomew & Allison, 2006; Cannon, Lauve-Moon, & Buttell, 2015; Capaldi, Knoble, Shortt, & Kim, 2012; Douglas & Dutton, 2001; D. G. Dutton, 2007; Gormley, 2005; MacKenzie, Mullen, Ogloff, McEwan, & James, 2008; McEwan, Mullen, & Purcell, 2007; Meloy, 1992; Ogilvie, Newman, Todd, & Peck, 2014; Stith, Smith, Penn, Ward, & Tritt, 2004; Sugarman & Frankel, 1996; Weldon & Gilchrist, 2012). What unifies these rather heterogenous factors is that they are either explicitly cognitive in nature or have substantial cognitive components. Thus, the second aim of this thesis was to theoretically and empirically explore an integrative perspective on IPV and PRS perpetrator cognition (Research aim 2).

The thesis consists of five associated papers addressing these two overarching research aims. This thesis contributes an integrated model of IPV and PRS cognition that systematically synthesizes and unifies empirical findings from a diverse range of literatures (Research Aim 2). Empirically, this thesis contributes new knowledge regarding the occurrence and co-occurrence of IPV and PRS (Research Aim 1) in an Australian sample, and common and unique cognitive correlates of IPV and stalking (Research Aim 2).

This integrated discussion covers the following: i) overview over the main research
findings, ii) synthesis of how the work answers the research questions and how the research questions relate to each other, iii) implications for the wider research literature on interpersonal violence, iv) critical reflection on the research methodology employed in this thesis, v) discussion of future research directions, vi) practical implications, vii) conclusions.

The first section provides a general discussion of the research findings including a brief recapitulation of the main results from the five manuscripts. A detailed discussion of each of the empirical papers’ results can be found in the respective discussion sections.

Rather than unduly repeating content covered in previous chapters, this thesis chapter will then synthesize the empirical findings and explicate what they mean for the interconnectedness of interpersonal violence research (Grych & Swan, 2012; Hamby & Grych, 2013). Throughout this section, due consideration will be given to the finding that links between IPV and PRS perpetration were clearly stronger in men, while the positive link between IPV and PRS victimisation appeared stronger in women. This chapter will then address Research Aim 2 by synthesizing the empirical findings and linking them to the Antisocial Relational Schema (ARMs) model proposed in Chapter 3. Again, gender differences regarding cognitive correlates of IPV and PRS will be considered. The first section of the integrated discussion concludes with a brief summary of the most significant and original findings that this research project makes in relation to the two research aims.

The second section of the integrated discussion will contextualise the thesis’ findings in the wider literature on interpersonal violence. In particular, this section discusses the implications of the findings’ for understanding the aetiology of IPV and stalking, adult attachment theory applications to IPV and stalking, the role of gender in IPV and stalking, and general social-cognitive theories of aggression and violence.

The third section will critically reflect on the research methodology and limitations of the study. The sample, the self-report methodology, the measurement of IPV and stalking, and the correlational, cross-sectional and non-dyadic nature of the study design will be critiqued with suggestion for how to address these limitations in future studies.

The fourth section of the chapter will capitalise on points made in the previous sections and propose future research directions, with the fifth section considering clinical and practical implications of this body of research. The sixth, and final section provides a conclusion to the thesis.
8.2 General Discussion of the Research Findings

In Chapter 3 it was proposed that Antisocial Relational ScheMas (ARMs) are the mechanisms by which cognition contribute to the perpetration of IPV and PRS. These ARMs consist of self-, other-schemas, and relational scripts that combine relationship, aggressive, and gender cognition. Thesis Paper 1 identified that similar cognitive themes are involved in IPV and PRS, however, it also briefly mentioned how knowledge structures implicated in the two behaviours may differ. For instance, IPV perpetrators may possess more problematic relational conflict schemas, while PRS perpetrators endorse more problematic schemas about romantic breakups. Alternatively, they may have very similar aggressive schemas, however IPV perpetrators’ schemas apply to different situations than stalkers’ schemas. For example, IPV perpetrators may believe that aggression is acceptable in a romantic relationship, while stalkers may view aggression as acceptable if it is in response to a partner leaving or to try to resume a relationship (i.e., domain-specific aggressive schemas).

The study described in Chapter 4 investigated the contested link between IPV and stalking perpetration and victimisation in a gender-inclusive sample. A comparable link existed between IPV and PRS victimisation in men and women. Victims of both genders who experienced more severe IPV during the relationship, were more likely to be stalked after its end. While a clear link between IPV and subsequent stalking perpetration was detected in men, no such link was found in women. Male severe IPV perpetrators were more likely to go on to stalk their victims compared to men who did not perpetrate IPV or whose abuse was less severe. Similarly, male stalkers were more likely to have perpetrated high severity IPV.

Chapter 5 provides some insight into why a link between IPV and stalking perpetration existed in men but not in women. This manuscript addressed the question of whether general antisocial attitudes, IPV-specific attitudes, stalking-specific attitudes, and general and romantic relationship-specific entitlement statistically predict IPV and PRS perpetration. At a multivariate level, IPV and PRS shared cognitive correlates among male perpetrators. More specifically, general violence-supportive attitudes and relationship-specific entitlement predicted both phenomena, with similar effect sizes. At a univariate level, IPV and stalking attitudes indicated some specificity. That is, IPV attitudes more strongly related to IPV and stalking attitudes more robustly correlated with stalking. However, in multivariate analyses, general antisocial attitudes

---

6 The terms “predict” and “explain” are used in terms of statistical, rather than empirical/causal prediction. Please refer to section 8.4 for a critical reflection on methodology used in this thesis.
“explained away” these effects. In women, different variables were predictive of IPV and PRS. Interestingly, general violence supportive attitudes predicted neither IPV nor PRS. In addition, the specificity of IPV- and stalking-related attitudes found in men was absent in women. On the contrary, IPV attitudes predicted stalking and stalking-attitudes predicted IPV in multivariate models of female perpetration.

Where Chapter 5 explored the role of cognitive content related to IPV and PRS, Chapters 6 and 7 studied the role of ruminative tendencies in relationship aggression. Chapter 6 described the development of a new measure of relationship rumination. Rumination about relationship goals has been strongly implicated in PRS and unwanted pursuit behaviour (Cupach & Spitzberg, 2004; Cupach, Spitzberg, & Carson, 2000; Spitzberg & Cupach, 2007). However, a validated measure was not yet available in the literature to allow for testing of hypotheses about its role (Senkans, McEwan, Skues, & Ogloff, 2016).

In contrast to the consistent relationship between aggression-supportive cognition and both forms of relationship aggression that was shown in Chapter 5, rumination was clearly differentially related to IPV and PRS. Specifically, rumination on breakups was implicated in stalking, but was unrelated related to IPV perpetration, once other predictors were taken into account.

Below, the implications of the thesis papers will be discussed. First, how the thesis papers address Research Aim 1 will be considered. The main paper that speaks to this research aim is the manuscript in Chapter 4. Findings from Chapters 3, 5 and 7 concerning Research Aim 2 will then be discussed.

8.2.1 Research Aim 1: Understanding the interconnectedness of intimate partner violence and post-relationship stalking. This detailed, gender-inclusive and -sensitive analysis of the relationship between IPV and stalking showed that the two behaviours were indeed linked, although not entirely co-extensive. It is noteworthy that rates of IPV and PRS perpetration and victimisation in the study matched previous research (e.g., meta-analyses). These findings indicated that both men and women engage in IPV and PRS; however, at somewhat different rates (Senkans, McEwan, & Ogloff, Chapter 4, this thesis).

We found that there was a meaningful link between the perpetration of IPV and PRS in men. More specifically, men who reported perpetrating high severity IPV were more likely to also report stalking when the abusive relationship dissolved (58.1% reporting PRS) in comparison to men who did not perpetrate IPV (15.3% reporting PRS) or less severe IPV
In clear contrast, female IPV perpetrators and non-perpetrators were equally as likely to report stalking once the relationship dissolved, with around 20 – 22% of women reporting stalking in all three (none/low, moderate, high) IPV categories. However, the identified link between IPV victimisation during a relationship and PRS victimisation after its end followed a similar trend in both male and female victims. The higher an individual’s severity of IPV victimisation, the higher their odds of subsequent stalking victimisation. Of course, these findings should be replicated in more diverse samples using more robust study designs (e.g., prospective designs).

Why may IPV be a risk factor for PRS? One possible reason is that IPV and PRS share some common causes and so people who are vulnerable to IPV are also vulnerable to PRS. This would be a non-causal relationship, meaning that IPV and PRS share underlying causes, but that IPV does not cause PRS. Universal aggressogenic cognitive processes are one causal mechanism that has been implicated in the interconnectedness of different types of interpersonal violence (Hamby & Grych, 2013). Integrating the literature on psychological risk markers, the ARMs model proposed and used in this thesis hypothesised that cognitive schemas implicated in IPV and PRS contain similar elements, namely problematic cognition about relationships, aggression and violence, and gender. These schemas distort the interpretation of social cues and bias later stages of information-processing towards aggression and violence (Senkans, McEwan, & Ogloff, Chapter 3, this thesis). Such attitudes may have similar causal roles in IPV and PRS, with the context being the only differentiator.

In addition to common cognitive content, a range of other psychological characteristics might create vulnerability to both IPV and PRS. Other reasons for the interconnectedness of these behaviours include emotional processes (jealousy, anger, abandonment rage, emotional volatility), self-regulation (e.g., impulsivity), personality characteristics (narcissistic and borderline traits), situational factors (e.g., substance abuse, bidirectional conflict), behaviour of others (e.g., aggressive peer networks), and relationship factors (e.g., dependence, attachment dysfunction) (Casey & Beadnell, 2010; Douglas & Dutton, 2001; Fox, Nobles, & Akers, 2011; Hamby & Grych, 2013).

Another possibility is that IPV plays a causal role in PRS. For example, Davis, Swan, and Gambone (2012) asserted that PRS is an extension of coercive control during a relationship. Coercive control encompasses a range of threatening activities designed to control the partner’s social environment (M. A. Dutton & Goodman, 2005; Stark, 2007). Davis et al. (2012) identified that many of these coercive tactics during a relationship overlap with PRS perpetrator’s stalking.
tactics. Using coercive and controlling strategies during the relationship may result in the formation of coercive control scripts, which continue to be applied when the abusive relationship has dissolved. This would be especially the case if the perpetrator has formed high self-efficacy and positive outcome beliefs for relationship aggression (Anderson & Bushman, 2002; Bandura, 1977; Crick & Dodge, 1994).

This perspective may also explain why the link was stronger in men than in women. Davis et al. (2012) argue that while women may also use coercion tactics, men who coercively control partners and persistently pursue ex-partners are further supported by cultural norms which support aggression towards women perpetrated by men. These cultural norms sanction male-perpetrated pursuit of females, propagate the idea of female token refusals, and support men’s entitlement to dominance over women (Byers, 1996; Davis et al., 2012; Langhinrichsen-Rohling, 2012; Spitzberg & Cadiz, 2002). The men who engage in high severity IPV may be more prone to endorsing and internalising such ideas, which then in turn facilitate PRS.

Intimate partner violence may be a risk factor for PRS, or IPV and PRS share underlying causal mechanisms such as the one explained above. However, not all IPV perpetrators also stalked their ex-partner once the relationship had dissolved. More than 40% of male severe IPV perpetrators and more than 80% of moderate IPV male perpetrators did not disclose PRS after the end of the relationship. In addition, 30% of women and more than 40% of men who had experienced severe IPV did not go on to become a stalking victim.

There are a number of explanations for why not all IPV is followed by PRS. Douglas and Dutton (2001) proposed that IPV perpetrators with antisocial traits would be less likely to stalk their ex-partners than IPV perpetrators with borderline personality traits (Holtzworth-Munroe & Stuart, 1994). This is because the antisocial.generally violent individual would simply not “get attached” to a sufficient degree to invest into stalking the ex-partner. While the contention that such subtypes of IPV perpetrators exist has been criticised (Capaldi & Kim, 2007), some research supports the idea of an anxiously attached/borderline and attachment avoidant /antisocial type of IPV perpetrator (Buck, Leenaars, Emmelkamp, & van Marle, 2012; Gormley, 2005; Mauricio, Jenn-Yun, & Lopez, 2007). Psychopathy, a construct which shared many interpersonal characteristics with antisociality, is comparably uncommon in stalkers (Reavis, Allen, & Meloy, 2008; Storey, Hart, Meloy, & Reavis, 2009). This may provide further indirect evidence for the idea that psychopathic/antisocial individuals may perpetrate IPV but are less likely to perpetrate stalking after the abusive relationship dissolves than non-antisocial IPV perpetrators.

In addition to the inconsistent relationship between IPV and subsequent stalking, PRS
was observed in the absence of previous IPV. Approximately 15% of men who did not commit
IPV engaged in stalking. In a similar vein, 10% of male victims and around 34% of female victims
experienced stalking following a non-abusive relationship. Anecdotally, a small, but significant
minority of individuals engage in PRS because they are highly dependent on the specific partner
or struggle being single in general (Mullen, Pathé, & Purcell, 2009). Due to their overtly
accommodating nature there may be no overt abuse during the relationship, but after the
dissolution of the romantic relationship, they can be clingy and needy (Bornstein, 2010). After
the relationship resolves, they want to get back together or at least receive an explanation why
the relationship has ended. While this may become threatening and frightening to victims,
these stalkers may not be motivated to cause fear in their targets. This hypothesis could be
tested by examining the kinds of behaviours this group of stalkers (and victims) report on the
STS.

The sections above explain the link, or lack thereof, between IPV and PRS from a
perpetration perspective, which often favours intrapersonal explanations of aggression.
Victimisation is often explained as the outcome of a particular constellation of circumstances
given that any individual may be the target of aggression (Hamby & Grych, 2013). Which
individual factors make individuals more vulnerable to experiencing an abusive relationship and
stalking after the abusive relationship has ended needs to be researched further.

To summarise, a gender-inclusive study of the assumed IPV-stalking link revealed that in
men IPV and PRS were significantly related. While more severe IPV perpetration during a
relationship increased the odds of PRS perpetration in men, it did not in women. In contrast,
male and female IPV and PRS victimisation were linked. That is, IPV victims of both genders had
higher odds of also being a PRS victim. While the research findings indicate that IPV and PRS are
somewhat related, they clearly are distinct phenomena. The following section will elaborate on
shared and distinct cognitive correlates of the two behaviours.

8.2.2 Research Aim 2: Understanding cognition involved in intimate partner violence
and post-relationship stalking. Since the early 2000s there has been an “explosion” of research
on how perpetrators and offenders think about themselves, others, and the world, with most of
this literature using social-cognitive theories to guide research (Gannon, Ward, Beech, & Fisher,
2009, p. 4). While some researchers have used social-cognitive principles to explain IPV
(Gilchrist, 2009a, 2009b; Holtzworth-Munroe, 2000; Murphy & Eckhardt, 2005), a
comprehensive theoretical framework on IPV-related cognition had yet to be developed.

If the literature on cognition involved in IPV is in its infancy, the literature on cognition
involved in stalking is almost non-existent (Cooper, 2015; McKeon, McEwan, & Luebbers, 2014). A number of authors have suggested that there must be problematic or biased cognition that relates to stalking, but this is yet to be fully described or linked to other causal mechanisms (Cupach, Spitzberg, Bolingbroke, & Tellitocci, 2011; Cupach et al., 2000; Mullen et al., 2009; Sinclair, 2012; Spitzberg, Cupach, Hannawa, & Crowley, 2014; Yanowitz, 2006; Yanowitz & Yanowitz, 2012). Given that IPV and PRS are related but separate constructs (Douglas & Dutton, 2001; McEwan et al., in press), a theory that elaborates on cognitions involved in both behaviours and details potential differences is desirable (Hamby & Grych, 2013). The theoretical model proposed in this thesis attempts to fill this gap, present a model that can account for both the interconnectedness of IPV and PRS (per Research Aim 1), but also provides space for testing the differences in cognition that contributes to these two forms of relationship aggression.

Based on the theoretical and empirical literature (Senkans et al., Chapter 3, this thesis), the ARMs model asserts the presence of Aggressive Relational ScheMas (ARMs), cognitive structures that combine problematic relationship cognition (related to attachment, personality), aggressive or antisocial cognition, and gender cognition. These ARMs are hypothesised to be involved in core social-cognitive processes that underlie many commonly observed psychological risk markers of relationship aggression. The study described in Chapter 5 of this thesis tested parts of this hypothesis. To this end, the role of general and specific antisocial and relationship cognition in IPV and PRS was examined in a large sample of Australian university students. Gender cognition was not considered due to space constraints of the survey methodology. For clarity, findings regarding antisocial and aggressive cognition will be discussed first, and then relationship cognition findings will be reflected upon.

8.2.2.1 Antisocial and aggressive cognition. Chapter 5 tested if, as proposed by the ARMs model, aggression-supportive and relationship cognition are related to both IPV and PRS. This study focussed specifically on aggression supportive cognition in the form of general antisocial attitudes and aggressive attitudes supporting IPV and PRS specifically. The construct of general antisocial attitudes encompasses violence-supportive attitudes, antisocial entitlement, and antisocial intent (Mills, Kroner, & Forth, 2002). Andrews and Bonta (2010) include other factors such as a pro-criminal identity, which was not considered here given that the sample did not comprise forensically-involved participants. Domain-specific aggressive attitudes included attitudes that condone IPV (Fincham, Cui, Braithwaite, & Pasley, 2008; Smith, Thompson, Tomaka, & Buchanan, 2005) and stalking (Cooper, 2015; McKeon, 2009; McKeon et
While the ARMs model does not specify gender-specific qualities for relationship aggression schemas, the results of Thesis Paper 3 suggest that ARMs may differ by perpetrator gender. In women, general violence-supportive attitudes did not predict IPV or stalking, though specific aggressive attitudes were associated with relationship aggression. However, the attitudes lacked behavioural specificity given that IPV attitudes explained stalking, while stalking attitudes were associated with IPV. In contrast, in men, while the specific attitudes were associated with the ‘correct’ behaviours, after taking general violence-supportive attitudes into account, they became insignificant in multivariate models. That means that general aggression-supportive attitudes were linked to both stalking and higher severity IPV, overwhelming the contribution of relationship aggression-specific cognition.

Drawing from the existing literature (Senkans et al., Chapter 3, this thesis), the ARMs model proposed that aggressive relational schemas have varying levels of applicability. Global ARMs apply to all sorts of interpersonal schemas and supersede more relationship-specific schemas (Brunson, Acitelli, & Sharp, 2015). For example, someone may believe that aggression and violence are acceptable means to attain goals in life (global schema). This person will probably also endorse domain-specific versions of this schema. That is, this person will view aggression towards strangers, friends, romantic partners, and other family members as acceptable. So, based on the ARMs model (Senkans et al., Chapter 3, this thesis), we would expect that people who are supportive of general aggression are also more likely to engage in relationship aggression, which would be indicated by general attitudes overpowering specific attitudes in statistical analyses. This is exactly what this study found, however, only in men. Why the expected pattern of results only bears out in men and not in women requires more exploration.

Regardless of perpetrator gender, domain-specific cognition may still be implicated in IPV and PRS, perhaps especially in the absence of general violence-supportive cognition. That is, in individuals, who do not possess global aggressive schemas, domain-specific cognition (i.e., schemas applicable to interactions with partners or ex-partners) may be more decisively implicated in IPV and PRS. This seems to be especially the case in women, in whom domain-specific cognition predicted IPV and PRS. However, based on the preliminary results in this study, it cannot be excluded that domain-specific schemas are associated with male perpetration in men who do not possess generalised violence-supportive attitudes. This question warrants further empirical attention. In addition, we did not test if relationship-specific...
schemas were implicated in IPV and PRS. Relationship-specific schemas apply to a specific relationship with a specific person. The role of such schemas should be researched in the future, particularly amongst women for whom they may play an important role.

The ARMs model proposed that in addition to aggressive and relationship cognition, gender would also play a role in some ARMs. Due to space constraints in the survey, gender cognition was not evaluated in this study. However, while gender cognition may impact some ARMs, the model also asserted that aggressive cognition is the only sufficient condition of the three components for relationship aggression to occur (Senkans et al., Chapter 3, this thesis). In this study, gender-neutral aggression-supportive cognition (both general and specific) contributed to the explanation of relationship aggression. This suggests that when it comes to attitudes and beliefs supportive of aggression, gender may well be important but is not the deciding factor in cognition related to aggression. This finding does not only support the ARMs model, but is also very relevant to the wider literature on IPV and stalking where overly gendered perspectives may de-emphasise the importance of aggression-supportive cognition.

Besides illuminating the role of general antisocial attitudes in IPV and PRS, this paper is the first to explore how stalking attitudes relate to actual perpetration of post-relationship relational pursuit. The results suggest that stalking attitudes were related to stalking perpetration and IPV (less strongly) in men. This provides some important evidence that stalking attitudes not only influence how individuals judge stalking scenarios (McKeon, 2009; McKeon et al., 2014; Sinclair, 2012), but also are somewhat implicated in actually engaging in the behaviour. Interestingly, stalking attitudes did not predict stalking in women, not even at the univariate level. This may raise the possibility that attitudes permissive of stalking are not involved in women’s stalking or that female stalkers’ attitudes differ in a way from female non-stalkers that was not measured with the SAQ. Alternatively, it is possible that the SAQ is not sufficiently gender-sensitive, a criticism which may also apply to other measures used in this research (see section 8.4 for further detail).

To summarise, Chapter 5 provides the first evidence that that antisocial and aggressive cognition is implicated in IPV and PRS, possibly more strongly in male- than female-perpetrated relationship aggression. This finding has significant implications for future research into stalking. Aggressive cognition may be involved in the mechanisms that explain why many offenders prosecuted for stalking are likely to also have histories of violence and intimate partner violence. This may mean that, similar to IPV, PRS is more strongly related to other forms of violence than its siloed research suggests. In addition, the finding suggests that studies
investigating the role of IPV- and stalking attitudes in perpetrating these behaviours should control for general antisocial attitudes. Findings reported in Chapter 5 also provide preliminary support of the proposals of the ARMs model. The study illustrates that both how perpetrators relationship and aggressive cognition is implicated in IPV and stalking. However, the ARMs model also proposes that relevant knowledge structures not only contain aggressive content but also content concerning romantic relationships, which was also supported in this study. The next section will be devoted to discussing these relationship cognition findings.

8.2.2.2 Relationship cognition: Entitlement. The ARMs model draws from the attachment and personality literatures to inform the relationship components of ARMs. A wide variety of attachment- and personality-related cognitive schemas may be implicated in IPV and PRS (Senkans et al., Chapter 3, this thesis).

This study tested the role of relationship-specific entitlement, a construct that has been identified in both the attachment (Tolmacz, 2011; Tolmacz & Mikulincer, 2011) and the personality literatures (Behary & Davis, 2015; Rafaeli, Bernstein, & Young, 2011; Young, Klosko, & Weishaar, 2003; Zeigler-Hill, Green, Arnau, Sisemore, & Myers, 2011) as relevant to relational aggression. Using the ARMs model, such entitlement schemas comprise inferior partner schemas in combination with a superior self-schema deserving of special treatment from others. In entitled individuals’ view, normal reciprocal norms do not apply to their social interactions. Relatedly, interpersonal consequences of entitlement schemas include asserting power and control over others and a lack of empathy (Rafaeli et al., 2011). The latter suggests that many entitlement-related schemas may have aggressogenic content. For example, they may include aggressive scripts that are activated if others do not afford the individual the special treatment they believe they deserve. As illustrated in Chapter 3, researchers have previously raised the possibility that antisocial, borderline, and narcissistic traits are related to aggression and violence due to the commonality of aggression-supportive cognition in Cluster B personality disorders (Gilbert & Daffern, 2011).

Not surprisingly, the role of entitlement-related schemas has been suggested in IPV (Corral & Calvete, 2014; Pornari, Dixon, & Humphreys, 2013; Weldon & Gilchrist, 2012) and many ex-intimate stalkers anecdotally present with narcissistic traits and related entitlement (Mullen et al., 2009). However, no study to date has empirically tested if entitlement is indeed implicated in IPV and PRS. The results of this research suggest that romantic relationship-specific entitlement was implicated in male-perpetrated IPV and PRS, with roughly similar effect sizes as found for aggressive cognition. In contrast, relationship entitlement was only implicated...
in women’s IPV. While women overall achieved higher mean rank on relationship-specific entitlement than men, the strength of associations between relationship entitlement and relationship aggression were evidently stronger in men as compared to women.

Regarding IPV, on a univariate level the association between IPV and relationship entitlement was small in women, and moderate in men. After taking victimisation and aggressive attitudes into account, relationship entitlement was still predictive of IPV, more so in men than in women. Tolmacz (2011) proposed that entitlement schemas are influenced by societal power differences between men and women. Thus, they hypothesised that men would endorse higher levels of relationship entitlement than women. This hypothesis did not bear out in empirical analyses of relationship entitlement indicating that women scored higher on relationship entitlement than men (Tolmacz & Mikulincer, 2011), which was also evident in our study. Relatedly, Pornari et al. (2013) found indirect support for the role of relationship entitlement in male and female IPV drawing from qualitative and descriptive studies. However, the results also provide direct support for qualitative and theoretical accounts, which emphasise the role of men’s entitlement in IPV (Gilchrist, 2009a, 2009b; Weldon & Gilchrist, 2012). The results also indicate that entitlement may play a similar, albeit slightly weaker, role in female IPV, mirroring Pornari, et al.’s (2013) results.

While the link between relationship entitlement and IPV was only marginally more pronounced in men than women, the association with stalking was clearly much stronger in men. That is, in univariate analyses, relationship-specific entitlement was moderately related to PRS in men. After other variables were controlled for, relationship entitlement maintained a small-to-moderate relationship with PRS for men. In contrast, the association between relationship entitlement and PRS was insignificant in women, even at the univariate level. Why relationship entitlement was related to stalking only in men warrants future research. Theoretical accounts that understand stalking within a gendered paradigm emphasise the role of possessiveness and need for power and dominance over women in male stalking (Stark, 2007; White, Kowalski, Lyndon, & Valentine, 2000). These reasons may explain how and why men’s relationship entitlement is more strongly associated with stalking than women’s relationship entitlement. However, given that the relationship entitlement construct used in this study is gender-neutral, reasons why male relationship entitlement was connected to stalking needs to be studied further. It may be that there is some sort of mediating or moderating variable that has a greater effect on women’s stalking behaviour, such as other types of cognition (antisocial or gender-related), or characteristics such as self-control and level of
emotional arousal.

Interestingly, antisocial entitlement and general interpersonal entitlement were not meaningfully related to relationship aggression (with the exception of a univariate relationship between IPV and antisocial entitlement that was overpowered when general violence-supportive attitudes were taken into account). This is in contrast with the finding that general-violence-supportive attitudes “explain away” the effects of domain-specific aggressive attitudes (see 8.2.2.1). This highlights the importance of studying variables applicable to romantic relationships specifically in addition to global versions of the characteristic.

However, the nature of the mechanisms linking relationship entitlement and IPV and PRS remains unclear. Tolmacz (2011) proposed that one’s sense of entitlement is part of attachment-related internal working models. He hypothesised that anxious attachment is related to an exaggerated sense of entitlement in romantic relationships as anxiously attached individuals are characterised by hyper-activation of attachment wants, needs, and worries (Mikulincer & Shaver, 2007). Interpersonally, this hyper-activation is proposed to be associated with behaviours such as excessive demands for care and security, which can be construed as manifestations of an entitled interpersonal style (Tolmacz, 2011). In contrast, avoidant attachment is associated with a de-activation of the attachment system (Mikulincer & Shaver, 2007), which is proposed to be associated with restricted entitlement (Tolmacz, 2011).

Thus, anxiously attached individuals who are not narcissistic may act in an entitled way, driven by their need for relational security and a hyper-activation of the attachment system rather than by the intent to control the partner. In contrast, individuals with narcissistic traits presumably regulate their vulnerable self-esteem by creating an excessively superior and unique self-schema (Cain, Pincus, & Ansell, 2008). If another person, such as a romantic partner, frustrates their wants, needs, and relational expectations (Tolmacz, 2011), they may experience intense negative affect, for example anger. While an anxiously attached person may internalise such negative affect, narcissists may engage in antisocial behaviour to protect their superior self-schema and punish their partner for the perceived interpersonal transgression (Cain et al., 2008).

To summarise, relationship entitlement was significantly associated with both IPV and PRS in men and with IPV in women. That may indicate that addressing excessive expectations towards partners is a useful treatment target in IPV interventions, especially when frustrations of these expectations is associated with anger and the desire to right perceived wrongs using aggression. The interesting gender differences regarding the role of relationship entitlement in
PRS found in this study require further empirical exploration. In addition, further testing should be undertaken to better understand the possible mechanisms linking relationship entitlement and relationship aggression.

The fact that both aggression-supportive cognition and a specific kind of relationship cognition both contributed independently in the model to relationship aggression supports the premise of the ARMs model. However, similar to antisocial and aggressive cognition, there were some differences between men and women. Thus, the preliminary evidence for the ARMs model does not only support the role of aggressive and relationship cognition in IPV and PRS, but also indicates that future studies need to take a gender-sensitive approach when studying IPV and PRS perpetrators’ cognition.

8.2.2.3 Relationship cognition: Rumination. Relationship aggression may be a consequence of particular types of cognitive content, but a second proposition of this thesis is that cognitive processes, or how people think about relationships, may also facilitate aggressive behaviour, through its effects on emotion. The role of one particular process, ruminative thinking, has been independently raised in the stalking, IPV, and general aggression literatures (Cupach et al., 2000; Denson, 2013; Eckhardt, Parrott, & Sprunger, 2015). Spitzberg and colleagues have suggested that rumination arises from frustrated goal pursuit, resulting in negative affect, and producing stalking when the goals are linked to relationship attainment (Cupach et al., 2011; Cupach et al., 2000; Spitzberg et al., 2014). Eckhardt et al. (2015) implicated hostile rumination as an impelling factor in IPV (Sotelo & Babcock, 2013; Watkins, DiLillo, & Maldonado, 2015). That is, similar to the role of rumination in general aggression (Denson, 2013), rumination focusses cognitive processes on partner transgressions or provocations, which maintains angry affect, which in turn favours aggressive conflict tactics (Eckhardt et al., 2015).

The attachment literature suggests that relationship rumination is one aspect of anxious attachment, which has consistently been linked to IPV, PRS, and many other types of relationship problems (Bartholomew & Allison, 2006; MacKenzie et al., 2008; Meloy, 1992; Mikulincer & Shaver, 2007; Ogilvie et al., 2014). While rumination is clearly recognised as a potential contributor to relationship aggression, progress in understanding its role has been hampered by the lack of a valid measure of rumination about relationship themes. Chapter 6 details the successful development and validation of a relationship-specific rumination questionnaire: The Relational Rumination Questionnaire (RelRQ). The RelRQ and a general rumination measure were then employed in the study described in Chapter 7 to test the links...
between rumination and relationship aggression.

Results revealed that both general and relationship-specific rumination – more specifically rumination about a past breakup – was associated with stalking of an ex-partner. Notably, these findings applied to both genders suggesting that rumination may be a common cognitive process associated with stalking behaviour. However, similar to previous findings, relationship rumination and PRS were more strongly associated in men than in women. These results add significantly to the small body of literature implicating rumination in stalking. Both Relational Goal Pursuit and adult attachment theory propose that rumination maintains the cognitive salience of the love interest and relationship worries, prolonging negative affect and impairing adaptive self-regulation (Cupach et al., 2000; Mikulincer & Shaver, 2007). While the attachment literature links this to a wide range of relationship issues (Mikulincer & Shaver, 2007), the Relational Goal Pursuit theory identifies this as a particular psychological mechanism underpinning stalking and relationship pursuit (Cupach et al., 2011; Cupach et al., 2000; Spitzberg et al., 2014). Linking relationship rumination to stalking using a self-report survey cannot test these proposed functional mechanisms; however, these findings do suggest that the role of rumination is an area ripe for further theorising and investigation to better understand stalking behaviour. The findings also highlight the importance of conducting gender-sensitive theoretical and statistical analyses in such research.

The finding that rumination was more strongly linked to men’s PRS than women’s is an interesting finding. Studies often find that ruminative tendencies are more common in women than men (Nolen-Hoeksema, 2001). Perhaps relational (and sexual) success is equally relevant to both men and women so that both engage in thinking about romantic relationships to similar degrees. It has previously been suggested that stalking behaviours may have an evolutionary purpose for men, given that for males, missing sexual opportunities is more costly than pursuing disinterested women (Duntley & Buss, 2012; Haselton, 2003). Thus, although women may engage in higher rates of rumination generally, the relationship context of rumination assessed with the RelRQ may mean that the usual gender differentiation in ruminitive thinking is not present. To the contrary, relationship rumination may be more strongly implicated in men’s stalking than women’s. Given that De Smet, Uzieblo, Loeys, Buysse, and Onraedt (2015) found the opposite (rumination and women’s PRS were more strongly linked), this warrants further empirical attention.

While a link between rumination and PRS existed across gender, neither general nor relationship rumination was implicated in IPV. The small body of research on rumination and IPV...
strongly implicates angry rumination in IPV (Eckhardt et al., 2015; Sotelo & Babcock, 2013; Watkins et al., 2015) in reference to the large body of literature that connects rumination to general aggression (Denson, 2013). Angry rumination focusses either on the provoking interpersonal transgression or what the implications of the provocation are for the self (Denson, 2013; Sukhodolsky, Golub, & Cromwell, 2001). In contrast, relationship rumination focusses on thoughts about a relationship or a possible or former relationship partner (Cupach et al., 2011; Cupach et al., 2000; Spitzberg et al., 2014). Thus, relationship rumination maintains the salience of a relational goal (Cupach et al., 2000). In contrast, angry rumination maintains angry affect and hostile cognitions (Denson, 2013). It makes sense then that the former is more obviously involved in stalking, while the latter is more predictive of IPV. Due to space constraints in the survey, angry rumination was not measured in this study. Future studies should investigate how angry rumination is implicated in stalking. One study suggests that stalkers are more inclined to engage in angry ruminative thinking than other offenders (Marquez, 2013). However, this study focussed on a very diverse group stalkers, only half of whom targeted intimates or ex-intimates and further research is required.

A body of literature that indirectly suggested a role of relationship rumination in both IPV and PRS is the attachment literature. This is because rumination is one facet of anxious attachment (Mikulincer & Shaver, 2007; Mikulincer & Shaver, 2008; Senkans et al., 2016; Shaver & Mikulincer, 2009), which is a shared correlate of IPV and PRS (Senkans et al., Chapter 3, this thesis). The study’s finding suggest the interesting possibility that while insecure attachment is implicated in both phenomena, different aspects of the very inclusive construct (Waters & Waters, 2006) relate differently to IPV and PRS.

Finally, although rumination was not discussed in depth in the ARMs model in Chapter 3, these findings have some implications for the ARMs model as well. Negative self-focused attention, e.g., rumination, is a non-specific correlate of many psychiatric disorders and problem behaviours (Ehring et al., 2011; Ingram, 1990). However, Ingram (1990) proposes that while ruminative thoughts are non-specific at the cognitive-operational level, they can differ substantially at the content-level. Given that schemas are the most basic units of information processing and control attention, salient self-schemas are thought to determine the content of ruminations (Ingram, 1990). For instance, self-schemas that encompass a self-focused sense of worthlessness and hopelessness may be conducive to self-degrading rumination that occurs in depression (Ingram, 1990). Conversely, a relational schema involving negative ideas about singlehood and romanticised notions about the ex-partner would favour rumination on
relational goals that may result in stalking behaviour.

To summarise, Chapter 6 contributes a novel measure of relationship rumination. Applying the scale in Chapter 7 revealed that relationship rumination was implicated in PRS, not in IPV. This was the case in both genders, although relationship rumination seemed more strongly implicated in men’s stalking. This supports existing explanatory accounts of PRS and can be reconciled with the ARMs model. In addition, this finding may hint towards the possibility that different aspects of attachment anxiety are differentially implicated in IPV and PRS. A limitation of this current study was that anger rumination was not measured. Chapter 6 showed that anger and relationship rumination were only moderately correlated, thus related, but distinct. Future studies should address how anger rumination relates to PRS.

8.2.3 Summary. As signposted early on in this thesis, the two Research Aims of this thesis are inter-related. This thesis demonstrated that there was a gendered connection between IPV and PRS perpetration. In men, IPV and PRS perpetration were related, while no such relationship existed in women. In contrast, IPV and PRS victimisation were related in a similar fashion in both genders (Research Aim 1). The findings regarding Research Aim 2 may hint towards a mechanism that explains the stronger link between IPV and PRS perpetration in men.

Cognition has been identified as one possible cause of interconnections between different types of interpersonal violence (Hamby & Grych, 2013). Using a new model of IPV and PRS perpetrators’ cognition, this thesis probed associations between aggressive and relationship cognition and relationship aggression. Interestingly, male IPV and stalking perpetrators were both characterised by higher relationship entitlement and general violence-supportive attitudes, while correlates of female IPV and PRS clearly differed. The presence of these shared attitudinal correlates in men, and the absence of shared correlates in women, may suggest the interesting possibility that male IPV and PRS share more mechanisms than female-perpetrated IPV and PRS, resulting in their being more closely linked in Chapter 3. Obviously, many other factors are implicated in the perpetration of relationship aggression. However, it may be possible that men’s IPV and PRS are underpinned by more similar mechanisms than women’s, a research question that should require further empirical scrutiny.

8.3 Beyond the thesis research questions.

Beyond having relevance for the ARMs model and the thesis Research Aims, the thesis findings also have implications for the wider IPV, PRS, and interpersonal violence literatures.
Chapter 8: Integrated Discussion

This section focusses on what the thesis findings may mean for the following key areas: i) the aetiology of IPV and PRS, ii) the role of gender in IPV and PRS, iii) adult attachment theory applications to IPV and PRS, and iv) general social-cognitive theories of aggression and violence.

8.3.1 Does violence towards partners have a special aetiology? Many studies have been conducted from the viewpoint that both male and female IPV is a special type of violence (Felson & Lane, 2010). For instance, much of the feminist literature conceptualises male-perpetrated violence as a way to dominate women, while female violence is often construed as self-defence, less consequential than male-perpetrated abuse, or a product of contextual factors (Johnson, 2008; Pence & Paymar, 1993). Felson and Lane (2010) identified that such a "gender perspective" implies that IPV and male violence directed towards women have different aetiologies than other types of violence.

There has been little research investigating the overlap between IPV and general violence. The studies that have tested this suggest that IPV and general offending are related, but distinguishable phenomena and that specialisation in IPV seems somewhat more common in women than men. Moffitt, Krueger, Caspi, and Fagan (2000) used the birth cohort of the Dunedin Multidisciplinary Health and Development Study sample \( n = 1,037, 52\% \) boys) to establish how IPV and general offending are related. They found that 3% of women and 22% of men had only perpetrated general violence. In addition, 33% of women and 16% of men engaged only in IPV. Finally, 7% of women and 11% of men were involved in both IPV and general violence. In a sample of 146 male and 43 female individuals arrested for IPV, Bouffard, Wright, Muftić, and Bouffard (2008) detected a higher level of specialisation among female arrestees. In their study if college students, Bates, Graham-Kevan, and Archer (2014) found that women as a group were more likely to perpetrate violence against a partner. In contrast, men were more likely to engage in violence towards same-sex non-partners. Rates of specialisation in stalking have not yet been investigated directly, but a substantial number of prosecuted stalkers have a history of violent offending outside of the context of stalking (McEwan, Mullen, MacKenzie, & Ogloff, 2009). This could suggest that, similar to IPV, stalking and general violence have related aetiologies in some cases.

The studies in this thesis suggest that the cognitive factors that contribute IPV and PRS may be more alike than different, especially in men. Moreover, the results show that both stalking and IPV share cognitive correlates that are commonly associated with general and violent criminal offending. While we did not measure general violent behaviour in this study, our results indicate that general violence-supportive attitudes are more explanatory of men’s
IPV and PRS than specific attitudes towards relationship aggression. That means that the association between general violence-supportive attitudes is so strong, domain-specific attitudes lose their explanatory value. In contrast, in women relationship aggression attitudes contribute to the prediction of IPV and PRS. Perhaps the increased specificity of relevant aggressive cognition is contributing to the slightly higher rates of specialisation found in women than in women men (Bates et al., 2014; Bouffard et al., 2008). Future research should continue to investigate how different types of violence inter-relate and if and how cognitive correlated may explain the interconnectedness between IPV, PRS, and other types of violence.

8.3.2 Gendered or gender-neutral research? The case for gender-sensitive research.

The thesis studies showed that women reported similar, or higher rates, of IPV and similar rates of PRS perpetration as compared to men. This is in line with previous findings in both the IPV (Archer, 2000, 2002; Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012b) and PRS (Spitzberg, Cupach, & Ciceraro, 2010) literature. This literature indicates strong gender symmetry for IPV perpetration and victimisation and some evidence for gender symmetry in pursuit perpetration. However, while overall rates of relationship aggression perpetration were similar in this study, there were clear gender differences in co-occurrence of IPV and PRS perpetration, which requires much further investigation.

The research presented in this thesis has implications for the way IPV and PRS are studied. It confirms that gender-sensitive research, rather than gender-neutral or gendered research seems to be the adequate level of analysis in both IPV and PRS. This is because relationship aggression is not gender-neutral. While men and women report relationship aggression at similar rates (Archer, 2000, 2002; Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012a; Desmarais et al., 2012b), male perpetration seems to have more adverse consequences. For instance, while, men and women do perpetrate similar levels of clinically significant IPV (Slep, Foran, Heyman, & Snarr, 2014), in a systematic review Straus (2011) found that men’s physical assaults were more strongly associated with injury. In a similar vein, research suggests that men’s stalking tends to induce more fear in their targets (Langhinrichsen-Rohling, 2012). While a “gendered perspective”, proposing that men are always the perpetrators of relationship aggression and women are always the victims, does not fit the empirical data (D. G. Dutton & Nicholls, 2005); an entirely gender-neutral perspective does not fit the data either (Cannon et al., 2015). The current studies show that there are noticeable gender differences in the link between IPV and PRS perpetration and in the cognitive correlates associated with the two behaviours. This suggests that taking a gender-sensitive approach may be the most useful way
to proceed in future research.

One implication of taking a gender-sensitive approach is that the constructs being measured may differ between genders. It is possible that relationship aggression was not associated with general aggression-supportive attitudes among women, and had unexpected associations with the relationship-aggression specific measures, because the measures used to ascertain these attitudes were insufficiently gender-sensitive. The Measure of Criminal Attitudes and Associates (MCAA) (Mills, Kroner, & Hemmati, 2004) was developed and validated in a sample of incarcerated male offenders and may not be suitable for the measurement of general antisocial attitudes in women. For example, the scale’s items relate to the willingness of engaging in physical fights, which may be less reflective of women’s violence-supportive attitudes. On the other hand, while violence supportive attitudes were not related to female-perpetrated IPV and PRS, other subscales were (antisocial intent), suggesting that the structure of antisocial attitudes may not differ between men and women. In addition, the MCAA’s psychometric properties did not differ greatly between this study and the original validation study (Mills et al., 2002).

Similarly, the measures of IPV- and PRS-supportive attitudes used in this study were gender-neutral rather than gender-sensitive. The IPVAS was intentionally devoid of gendered content. The SAQ incorporates two gendered items, one explicitly concerning male victimisation, the other female victimisation. These measures were chosen to avoid an overtly “gendered perspective” of IPV and PRS in which males were positioned as perpetrators and sexist or misogynistic attitudes were assessed. However, it may be that these measures are still not sensitive to women-specific attitudes linked to relationship aggression but merely ‘de-gender’ the kinds of attitudes and beliefs that have been ascertained from studies of male perpetrators. Gender-sensitive constructs and measures of sexist stereotyping, gender norms, and gender role stress exist (Eisler & Skidmore, 1987; Gillespie & Eisler, 1992; Glick & Fiske, 1996, 1999; Levant, Hall, & Rankin, 2013; Mahalik et al., 2003; Mahalik et al., 2005), however, these more modern constructs have not yet been used widely in the relationship aggression literature.

Future studies should develop and investigate gender-sensitive measures of general and specific antisocial and aggressive attitudes. Due to profound differences in gender socialisation, men and women most likely excuse, minimise, and justify aggressive behaviour against partners, strangers, and others (e.g., friends) in different ways. For example, women may be more ready to invoke their fear of victimisation as a justification for their violent
behaviour, whereas men may feel ashamed admitting that their partner intimidated or scared them. In contrast, men may be more inclined to use “saving face” as a justification of perpetrating violence, which would be in line with traditional male gender norms.

The other, obvious, aspect of gender-sensitive research not dealt with in these studies is gender-related cognition. This vital third aspect of the ARMs model requires future research from a gender-sensitive perspective, taking into account both male and female attitudes towards the opposite gender that may be conducive to IPV and PRS.

8.3.3 Disentangling aspects of the adult attachment construct. The ARMs model proposes that aggressogenic relational schemas combine aggressive and relational knowledge structures. There is a large body of research derived from attachment theory implying that IPV and PRS offenders possess problematic relationship cognition. While the attachment literature clearly has much to offer for understanding of relationship aggression, it is difficult to operationalise and translate to practice. The attachment construct encompasses a vast array of cognitive, affective, and behavioural processes (Mikulincer & Shaver, 2007) that are often confounded with each other (Holmes, 2000), or too poorly defined and vague (Waters & Waters, 2006).

Few empirical studies have attempted to disentangle the attachment construct by using more distinct concepts. Non-attachment oriented researchers have highlighted that factors such as exaggerated relationship expectations (Foran & Slep, 2007; Gilchrist, 2009a) and rumination (Cupach et al., 2000; Eckhardt et al., 2015) play a role in IPV and PRS. These factors, though discussed in the context of social cognitive or other theories, can also be construed as aspects of insecure attachment. This project focussed on two important constructs related to attachment – romantic relationship-specific entitlement and rumination – in an attempt to identify discrete psychological processes that may predispose individuals with insecure attachment to relationship aggression. By breaking down the broad concept of anxious attachment into component parts, this approach may increase our understanding of the established attachment-violence link (Ogilvie et al., 2014). This in turn could have implications for clinical practice. It may be difficult to “make” someone securely attached, and the kinds of therapies designed to change attachment related phenomena have been shown to have little impact on reoffending (Andrews & Bonta, 2010). However, identifying and addressing more specific treatment targets such as exaggerated relationship expectations or ruminative thinking about relationships is consistent with a cognitive behavioural approach to treatment that can be realistically delivered in forensically-relevant settings (Andrews & Bonta, 2010).
8.3.4 Implications for social-cognitive aggression theories. The studies also pinpoint some limitations of the ARMs model and other social-cognitive theories of aggression. Across all empirical studies described in this thesis, the most robust predictor of relationship aggression was victimisation, which attained moderate to very large effect sizes in all models. This is in line with the existing literature, which suggests that mutual IPV is the norm rather than the exception and that being a victim of IPV is strongly associated with perpetrating such aggression (Hamby & Grych, 2013; Knight, 2011; Langhinrichsen-Rohling, 2010a; Langhinrichsen-Rohling, Misra, Selwyn, & Rohling, 2012). This research shows that the strong relationship between victimisation and perpetration is also relevant to PRS behaviour. While victimisation was by far the strongest predictor of perpetration, cognitive predictors still added to the explanation of both IPV and PRS after impression management, relationship duration, and victimisation experiences were taken into account, attaining very small to moderate-to-large effect sizes.

The role of victimisation is often not properly addressed in perpetration models and vice versa (Hamby & Grych, 2013). For example, the General Aggression Model (Anderson & Bushman, 2002) and its applications to IPV (DeWall, Anderson, & Bushman, 2011) does not sufficiently discuss the role of victimisation in the perpetration of interpersonal aggression and violence. The model takes into account the role of provocation in aggression, which includes being the receiving end of verbal and physical aggression. However, the model does not acknowledge how victimisation may play a role beyond acting as a provocation. For example, victimisation may be involved in the formation of aggressive relational schemas, which in turn predispose individuals to perpetration.

Chapter 3 in this thesis proposed a model describing the structure, content, and effects of aggressive relational schemas (ARMs). This model also only briefly discusses the role of victimisation in IPV and PRS perpetrator cognition. Obviously, aggressive relational schemas do not form in a social vacuum. Victimisation and perpetration experiences and other relationship experiences may all contribute to the development of ARMs, and ARMs may in turn contribute to these experiences over time. Relational schemas form like any other schema, meaning that repeated experiences are abstracted into a generalised knowledge structure (Baldwin, 1992). That is, recent victimisation experiences may make ARMs more cognitively accessible or available and thus may favour perpetration. These experiences may feed into global schemas (i.e., schemas applicable to all sorts of relationships) or domain-specific schemas (i.e., romantic relationship-specific schemas). Schemas on the highest level or specificity would apply to the specific relationship with the ex-partner or partner. Unfortunately, there is little research that
addresses the influence of aggressive behaviour and victimisation on cognition so the process by which ARMs may be formed remains somewhat unclear.

In perpetrator-victim dyads, the mechanisms may be even more complicated. In a dyad, partners show interdependent behaviour and possess interdependent social cognition (Card, 2011). Studying perpetrator cognition from an individual difference perspective in isolation from situational and partner factors has many limitations. It de-contextualises violence, neglects the relationship between the perpetrator and victim or relationship between two perpetrator-victims (Card, 2011). A model that contextualises IPV that occurs in a context in which both partners are violent was recently proposed by Langhinrichsen-Rohling (2010a). This model emphasises that individual characteristics of both partners, dyadic interactions, and wider contextual factors such as cultural norms about relationships, violence, and gender influence the incidence of bi-directional partner abuse (see Figure 8.1). Incorporating social-cognitive models such as the ARMs model in such multiple-level models may prevent the de-contextualisation of violence perpetration. This is in line with an ecological model of interpersonal violence which proposes that violence results from complex interactions between individual, dyadic (relationship), social, cultural, and environmental factors (Dahlberg, Krug, Mercy, Zwi, & Lozano, 2002). How aggressogenic social cognition interacts with these factors remains to be established.

The research project in this thesis did not address any individual factors beyond cognition. A host of person factors such as individual differences (e.g., personality, attachment style), demographic factors, and other psychological factors (e.g., affect) are implicated in IPV and PRS. However, these factors are easily reconcilable with the ARMs model. For instance, alcohol consumption is a risk factor for IPV (Capaldi et al., 2012; Foran & O’Leary, 2008; Stith et al., 2004) and stalking perpetration (McEwan et al., 2007; McEwan et al., 2016). From a cognitive perspective, factors such as alcohol aggression expectancies are related to IPV (Fossos, Neighbors, Kaysen, & Hove, 2007) and could play a role in many perpetrators’ ARMs. In addition, the physiological and social-cognitive effects of alcohol consumption may interact with ARMs-induced biased information processing. While alcohol and IPV are related with small to moderate effect sizes (Foran & O’Leary, 2008), the exact mechanisms underlying the connection remain unexplored (Eckhardt et al., 2015), although disinhibition through intoxication is frequently suggested (Finkel, 2007; McEwan et al., 2007). From a SIP perspective, intoxication may exacerbate social-information processing biases caused by knowledge structures such as ARMs. That is, intoxication impairs information processing ability and shifts attention toward
salient social cues (Eckhardt et al., 2015; Murphy, 2013). Individuals with problematic ARMs may be more likely to focus on aggressogenic cues or even over-interpret the presence of such cues. So, if they are under the influence of alcohol, this tendency may be exacerbated or they are less able or motivated to implement self-regulatory mechanisms that could inhibit responses based on biased processing.

To summarise, while this thesis adds important theoretical and empirical knowledge about cognition implicated in IPV and PRS, social-cognitive theories such as the one proposed in this thesis run the risk of de-contextualising the occurrence of violence perpetration (Card, 2011). This may especially apply to bidirectional IPV (Langhinrichsen-Rohling, 2010a). However, the ARMs model may provide a theoretical framework for research into how aggressogenic social cognition, victimisation, and perpetration of interpersonal violence interact. Finally, the ARMs model possesses empirical adequacy given that it can account for the known contribution of non-cognitive, individual-level factors (e.g., substance abuse) to IPV and PRS.

8.4 A critical reflection of the research methodology and methods or techniques

This section will consider limitations of the research presented in this thesis. Sample limitations will be discussed first, then limitations inherent in the study design (including the coding of IPV and PRS and statistical treatment of predictor variables) and self-report methodology. How to alleviate these limitations in future research will only be considered briefly, given the next section comprehensively addresses future directions.

8.4.1 Sample. The research relied upon a convenience sample of psychology and criminology undergraduate students. As with all undergraduate research, participants had considerable experiences with psychological research, which could have influenced the results. Moreover, despite over-sampling male students, the sample was biased towards female participants, who accounted for approximately two-thirds of the sample. While the sample is subject to the usual limitations of student-based research, it had a higher average age (approx. 31 years) and wider age distribution ($SD = 10$ years) than most student samples, and was ethnically and income-diverse. This may mean that the findings are more generalizable to other Australian populations than most student samples, but limitations on generalisability to other countries or to populations with lower levels of education remain. Although a substantial number of participants disclosed significant instances of serious IPV and PRS, the findings are also not generalizable to adjudicated IPV and PRS offenders. How relationship and aggressive cognition is related to IPV and PRS in these individuals warrants future research attention drawing on concepts described in the ARMs model.

8.4.2 Study design, statistical analyses, and self-report methodology. A second overall limitation relates to the study design and self-report methodology. We asked individuals to report on their most conflicted relationship and the breakup that stuck most on their mind. About half of the participants reported IPV during a past relationship. By definition, the reports of stalking were on a past relationship. Another limitation for the study presented in Chapter 4...
was that the questionnaire design did not ascertain prevalence rates. That means that some participants reported IPV in one relationship and/or PRS in another relationship, so were excluded from the participant pool given they did not report on the same relationship. This could have resulted in potentially under- or over-estimating the link between IPV and PRS.

To ease answerability for participants, we asked participants to focus on their most conflicted relationship for IPV. Two-thirds of participants reported on a relationship that lasted longer than two years. However, participants’ reports did not refer to a standardised period, leading to a need to control for relationship duration in analyses in some cases. Participants reported on their and a partner’s breakup behaviour for the breakup that stuck most on their mind. Again, some participants may have reported on the dissolution of less committed relationships, whereas other reported on a highly meaningful and committed relationship, which could have influenced the results.

There is no current gold standard of measuring PRS. The evident absence of such standard has been raised in a rather recent review (Fox, Nobles, & Fisher, 2011). The most rigorous behavioural standards (number of behaviours, duration of course of conduct) were used in this study. Victim fear was only added to the study protocol after half of the data had already been collected. Using this instrument, the study’s definition of stalking did not take into account victim fear, although this is a central feature of legal definitions of stalking in most countries (Mullen et al., 2009). This may mean that we classified individuals as stalkers or stalking victims, who may not meet legal criteria. Nonetheless, the behavioural definition used was derived from research showing that unwanted intrusions that persist over two weeks and involve more than five unwanted intrusions are associated with greater psychological damage to victims. As such, the definition used is likely an effective proxy for a definition including victim impact, particularly in a non-forensic population.

The study’s definition of IPV was also different from many previous studies, which often focus exclusively on physical assault rather than the full constellation of psychologically, physically, injurious, and sexually abusive behaviours that are included in the IPV definition (Straus et al., 1996). This study was focussed on the ‘whole picture’ of IPV, taking into account the severity of the behavioural constellation as a whole, rather than adding up instances of various behaviours as if they were comparable (e.g., an instance of minor psychological abuse vs. an instance of severe injury). While this may decrease the comparability of the current findings with existing findings, the studies make a significant contribution to the literature broadening the scope of IPV research. Moreover, the manuscript in Chapter 4 included analyses...
linking IPV subtypes (minor vs. severe psychological, physical, injurious, and sexual IPV) to PRS behaviour. Given that these variables were calculated as per CTS-2 instructions, the comparability of these results has not been compromised. An avenue for further research is to statistically model patterns or types of IPV perpetration and victimisation based on CTS-2 responses (Hagenaars & McCutcheon, 2002). However, this is beyond the scope of this thesis.

Similarly to categorical outcome variables, predictor variables throughout the thesis studies were dichotomised. The use of median splits on continuous variables has been criticised, especially in the experimental psychology literature (McClelland, Lynch, Irwin, Spiller, & Fitzsimons, 2015; Rucker, McShane, & Preacher, 2015). The main caveat against use is a reduction in statistical power (McClelland et al., 2015; Rucker et al., 2015). Given that this study was not experimental in nature and was sufficiently powered, median splits were employed in the studies described in Chapters 5 and 7. This was done for a number of reasons. First, the questionnaires were not on the same metric. That is, they used different item numbers and response anchors resulting in rather arbitrary, non-comparable total scores. Specifically, a one-unit increase on one questionnaire total score was not comparable to a one-unit increase on another, while median splits made it possible to compare the effects of scoring relatively lower vs. higher on a range of questionnaires. Second, variables may have been measured on a pseudo-continuous or ordinal scale, however, conceptually they were more discrete. From a clinical point of view, one is interested if antisocial attitudes predict IPV or not, for example, rather than the role of numerous different levels of antisocial attitudes. Third, median splits achieve communication clarity and parsimony that the continuous treatment of predictor variables lacks (Iacobucci, Posavac, Kardes, Schneider, & Popovich, 2015b; Iacobucci, Posavac, Kardes, Schneider, & Popovich, 2015a). Nevertheless, limitations of median splits (e.g., slightly and extremely above the median in the same category), are acknowledged here.

In addition, relying on self-reports of one individual of a given dyad may be problematic. It is possible that individuals systematically, either consciously or unconsciously, over-reported their own victimisation and under-report their own perpetration. Given the online methodology and anonymous nature of the study, the potential for this might be reduced, but it remains possible given unintentional biases towards impression management. There were only small, but significant correlations between conscious impression management and perpetration and

---

7 Due to the non-normal nature of the variables, z-score transformations would have been inappropriate. Other non-linear transformations that lose less information (e.g., a quartile split or a decile split) were considered, but dismissed because of a lack of parsimony.
victimisation. Nevertheless, in future research, it would be desirable to study dyads rather than individuals for examination of IPV. This may not be feasible or ethical when studying stalking as bringing a stalking victim and stalker together for the purposes of research would be potentially perpetuating a stalking situation.

A final limitation of the research is its cross-sectional and retrospective nature. Notably, the causal relationship between cognition and IPV and PRS is unclear due to this design. Cognitive content minimising or justifying violence may be a risk factor for aggressive behaviour (Andrews & Bonta, 2010) or a post-hoc effect of engaging in violent behaviour (Maruna & Mann, 2006). It is also possible that cognition is not directly involved in aggression, but mediates relationships between situational variables and perpetration (Calvete & Orue, 2013).

8.5 Implications for Research and Future Directions

This section will address the thesis’ implications for future research. First, future research questions that can be investigated in the existing data set will be identified. Then, unanswered research questions regarding the interconnectedness of IPV and stalking will be noted. Next, areas that warrant research attention based on the ARMS model and associated findings regarding IPV and PRS perpetrators’ cognition will be pinpointed. Finally, more general implications for future studies such as the need for gender-sensitive research paradigms will be discussed.

A number of additional research questions emerge from this thesis that can be examined using this data set. Central questions include the relationship between attitudinal variables and specific subtypes of IPV measured using the CTS2, for example sexual coercion. In addition, about 10% of the participants in the overall data set identified as same-sex attracted and/or gender-diverse. These data have not been reported in this thesis, but the role of cognition in IPV and PRS as well as the overlap between IPV and PRS has never been tested in such a sample. The findings would be based on a small number of individuals with diverse sexual orientations. However, given that some research finds higher rates of individuals affected by IPV in these groups (Derlega et al., 2011; Messinger, 2011), this future study could give valuable insight into factors that are associated with IPV and PRS in this understudied group of individuals.

Another important avenue for future research is to further investigate the Stalking Attitudes Questionnaire (SAQ). Stalking attitudes did show the expected associations with stalking and IPV in men. That is, both attitudes were associated with IPV and PRS, but showed
specificity (i.e., IPV attitudes were associated more strongly with IPV and stalking attitudes with PRS). This was not the case in women. This may hint toward the possibility that questionnaires used in this research were not gender-invariant. If this is the case, our findings regarding differences between men and women do not indicate a true attitudinal difference between men and women but rather men and women respond to the questionnaire differently (Cheung & Rensvold, 2002). It is also possible that the questionnaires used were less relevant to the experience of same-sex attracted and gender-diverse individuals. The issue of gender and other measurement invariance warrants future research in general and in the relationship aggression literature in general, where gender differences continue to be hotly debated (Langhinrichsen-Rohling, 2010a, 2010b, 2012).

The present study’s findings require replication and generalisation to different samples such as community adults and individuals involved with the criminal justice system. Nevertheless, the current research is a significant contribution given that most research to date on different types of interpersonal violence are studied in isolation from each other (Grych & Swan, 2012; Hamby & Grych, 2013). Thus, future research also needs to address the link between IPV and PRS perpetration, general violence, sexual violence, and non-violent criminal offending. The same applies to victimisation. This emphasis on the inter-connectedness of violence results in important research questions such as: “Why do some individuals engage in multiple forms of violence, whereas others are aggressive only in certain relationship contexts?” (Hamby & Grych, 2013)[p. 67]. Exploring these avenues further can contribute to the study of general as well as unique cognitive risk factors of violence and ultimately more holistic prevention and intervention methods (Hamby & Grych, 2013).

Importantly, this need for integration across silos does not only extend to empirical research, but also to aetiological theories (Hamby & Grych, 2013). The explanatory approach to IPV and PRS perpetrator cognition proposed in this thesis explicitly incorporated general violence-supportive schemas that may be conducive of aggression in any context. The ARMs model could be relatively easily extended to account for the role of cognition in interconnectedness of different types of violent and problem behaviour perpetration and victimisation.

In addition to these questions, there are a number of question that arise from the ARMs model itself, in its current form. These questions were listed in Chapter 3 and are reproduced below. The findings outlined in the empirical papers have direct relevance to questions 1 and 4 in the table below, and the next section expands on the implications of the current findings for
the ARMs model.

### Table 8.1 Research Questions that can be derived from the ARMs model (reproduced from Thesis Paper 1, Chapter 3, p. 57).

<table>
<thead>
<tr>
<th>Research Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do IPV and PRS offenders’ ARMs contain the proposed elements?</td>
</tr>
<tr>
<td>2. If ARMs exist, do they influence stages 1-6 of information processing? If yes, how?</td>
</tr>
<tr>
<td>3. Do ARMs have predictive and/or explanatory value for relationship aggression?</td>
</tr>
<tr>
<td>4. Do ARMs distinguish between different types of relational aggression perpetrators (IPV vs. PRS)?</td>
</tr>
<tr>
<td>5. Do ARMs distinguish between specialist and generalists perpetrators of relationship aggression?</td>
</tr>
<tr>
<td>6. If ARMs are amenable to intervention and such would result in reduction of reoffending risk?</td>
</tr>
<tr>
<td>7. What type of affect or emotions may be represented in ARMs relevant to relationship aggression?</td>
</tr>
<tr>
<td>8. Are Cluster B personality traits and insecure attachment associated with negative relational schemas and are some of these schemas aggressogenic?</td>
</tr>
<tr>
<td>9. Do relationship aggression perpetrators share general ARMs or do idiosyncratic ARMs exist?</td>
</tr>
</tbody>
</table>

The model proposed that ARMs combine relationship and antisocial cognition, and that some ARMs are gendered. The empirical papers in this thesis provide support for this contention regarding both the role of aggressive and relationship cognition, although the self-report, cross-sectional design means that this evidence is indirect. While most available evidence points to the relevance of these knowledge structures, whether they are independent knowledge structures or interwoven in an associative network as proposed in the ARMs model will be extremely difficult to empirically ascertain. However, the limited literature on attachment style priming may be useful. For instance, it could be tested if priming negative ideas about relationships (e.g., using a vignette) increases the accessibility of aggressive and gendered cognition and vice versa. There is a small body of research that suggests that relational schemas can be primed and that this affects social-information processing (Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996; Rowe & Carnelley, 2003). Such future research could capitalise on a host of reaction-time based tasks that exist in social-cognitive and cognitive psychology literature (Fiske & Taylor, 2013).

Qualitative studies could complement such experimental or vignette-based research. For example, individuals who have committed or are currently engaging in IPV and/or PRS may be interviewed about how they think about relationships in general, and their partners, and themselves in relational contexts. Such research should also address the role of victimisation in these schemas, collect quantitative data (e.g., social desirability, other questionnaires), and

Chapter 8: Integrated Discussion
include a control group (e.g., individuals who suffer from relationship dissatisfaction or breakup distress, but do not engage in aggressive behaviour). Nevertheless this kind of research would involve considerable inference given that articulated thoughts are cognitive products (Collins, Guichard, Ford, & Feeney, 2004; Eckhardt & Crane, 2014; Ingram & Kendall, 1986; Snowden, Craig, & Gray, 2011). That is, they are the consciously accessible cognitions that schemas are thought to produce, not the schemas itself. Also, due to the “cold” nature of an interview scenario, relevant knowledge structures may not be activated and thus inaccessible to the individual. One way of overcoming these issues may be to use The Articulated Thoughts in Simulated Situations (ATSS) think-aloud paradigm, which has already been used successfully to examine aggressive cognition in IPV perpetrators (Eckhardt, 2007; Eckhardt, Barbour, & Davison, 1998; Eckhardt & Crane, 2008, 2014; Eckhardt & Jamison, 2002; Eckhardt, Jamison, & Watts, 2002; Eckhardt & Kassinove, 1998). After identifying candidate schemas in qualitative research, a coding scheme could be developed that includes relationship- and gender-cognition in addition to relevant aggression-supportive cognition.

Quantitative research based on self-report questionnaires, such as the one described in this thesis, can only point to rather than confirm the content of aggressogenic knowledge structures. Future studies face challenges given that there is no standardised, direct way to measure the content of relational schemas from a social-cognitive perspective (Brunson et al., 2015). Some quantitative approaches that measure relational schemas indirectly appear encouraging. For example, Hill and Safran (1994) developed a vignette-based questionnaire that taps into interpersonal schemas. Participants are instructed to imagine themselves engaging in different types of social behaviour and then to anticipate how their significant other(s) would react. They developed a coding scheme based on Kiesler’s Interpersonal Circle (Kiesler, 1983) to analyse responses. Future research, based on qualitative research findings, could develop such a questionnaire to examine the presence of ARMs in IPV and PRS perpetrators.

Regarding the fourth research question identified in Table 1, the current findings indicate that IPV and PRS share some common cognitive correlates, but that there are also some differences. This provides indirect evidence that knowledge structures and processes differ between IPV and PRS. How PRS and IPV cognition may differ should be explored in future research.

To summarise, future research should employ more sophisticated designs (e.g., experimental designs) and measures that allow the more direct testing of relational schemas implicated in IPV and PRS. Survey studies can only address rather static research questions.
Future qualitative studies should explore if the proposed ARMs elements feature in male and female IPV and PRS perpetrators’ sense-making of their own and other’s behaviour. The use of gender-sensitive measures will increase the depth of existing scholarships. Insights from such studies can then be used to further the experimental and self-report study of IPV and PRS offender cognition.

The other clear area for improved design would be to include dyads rather than individuals as research participants (although this may be more realistic for IPV than stalking research). Convenience samples such as the one used in this thesis lend themselves to initial testing of research questions. Then, insights gained need to be applied to other samples such as individuals involved in couples counselling, individuals who have received criminal sanctions for their partner abusive behaviour using more refined research methods and designs.

8.6 Practical Implications

The practical implications of the papers presented in this thesis will be briefly summarised. Then, implications of the ARMs model, which are contingent on its empirical validation, will be illustrated.

First implications regarding the interconnection of IPV and PRS will be presented. While IPV and PRS perpetration occurred in both women and men at rather comparable rates, the interconnection between them seems stronger for perpetration in men. Regarding victimisation, the interconnections were somewhat stronger in women, but were also evident in men. This mirrors the few existing research papers on this topic (Ansara & Hindin, 2009; Hamby & Grych, 2013). If this finding holds in different samples, this may have important policy implications. For example, while female IPV victims may be at greater risk of experiencing stalking after an abusive relationship, the current study suggests that this may also be the case for male victims, albeit in a less pronounced fashion. This should be taken into account when developing assessment approaches and interventions for people affected by IPV.

Another important finding relates to the strong relationships between perpetration and victimisation. While we presented links between IPV and stalking for victimisation and perpetration separately for clarity, links between victimisation and perpetration were strong and rates of bidirectionality of relationship aggression were high (as evident in Chapters 5 and 7). The findings add to the growing body of literature that illustrates the importance of thinking outside of narrowly defined subtypes of violence. Perpetrator interventions could increase their effectiveness if they assessed for and address poly-perpetration and perpetrators’ victimisation.
histories, and were better integrated with victim services (Hamby & Grych, 2013). When a male perpetrator speaks about his partners’ abusive behaviour toward him, this is often treated as a cognitive distortion that facilitates violence rather than being taken as any reflection of reality (Weldon & Gilchrist, 2012). Relatively, raising the issue of bi-directionality may be seen as victim-blaming (Hamby & Grych, 2013) meaning that women who engage in IPV towards their male partners never receive interventions targeted such perpetration. This may not only increase the likelihood of perpetrating IPV against another partner in the future, but also the likelihood that the woman will again become a victim of IPV, given the strong relationship between victimisation and perpetration.

The existence of violence type and perpetrator vs. victim silos make it challenging to address the full heterogeneity of IPV. However, initiatives are slowly emerging that address at least bi-directionality of aggression. For example, Stith, McCollum, and Rosen (2011) developed a domestic violence-focused couple’s therapy that targets couples who wish to stay together after one or both partners have engaged in physical abuse. They propose to use this program to address abuse once it has occurred, or to intervene early before conflicts escalate in high-risk couples. Traditional, gender-based IPV intervention programs for male perpetrators and shelters for female victims will likely not work with such couples (Langhinrichsen-Rohling, 2010a; Stith et al., 2004). However, while contextual factors such as victimisation are more strongly implicated in aggression, they may be less amenable to behaviour change interventions. In other intervention programs for violent and criminal behaviour, antisocial attitudes and other cognitive factors are one of the primary treatment targets for perpetrator rehabilitation programs (Andrews & Bonta, 2010; Stewart, Flight, & Slavin-Stewart, 2013), which should be extended to IPV and PRS treatment.

This study illustrates that even outside the criminal justice system, treatment targets for people who engage in relationship violence should include general antisocial and aggression-supportive cognition. Treatment programs focusing on how perpetrators and their partners think about romantic relationships, violence, and gender (and how these cognitions interact) may be more promising than exclusively focusing on pro-violence attitudes or attitudes towards gender (Eckhardt et al., 2013; Langhinrichsen-Rohling, 2010a; Murphy & Eckhardt, 2005; Senkans et al., Chapter 3, this thesis).

Other potential treatment targets become clear after disentangling the attachment construct in Thesis Papers 3 and 5. Two aspects of insecure attachment i) exaggerated expectations toward relationship partners and ii) a tendency to ruminate on romantic
relationships were tested separately. How individuals think about their entitlements in romantic relationships was implicated as strongly in IPV and PRS as aggressive attitudes (they had similar effect sizes). This important finding supports the relevance of relationship cognition to IPV and PRS. In addition, this may be a useful treatment target to effect change given its potential amenability to cognitive behavioural interventions. Regarding the general treatment of entitled individuals, Young et al. (2003) emphasise the use of a cost-benefit analysis of rigidly holding onto entitlement ideas, anger management, assertiveness training (to reduce angry responses), limit setting, and developing a more realistic view of self and others. These general methods based on Schema-Focussed Therapy may be equally effective for IPV and PRS perpetrators.

Likewise, relationship rumination and a general tendency to ruminate may be a promising intervention target in for post-relationship stalkers. For instance, positive meta-cognition about rumination and stalking (“I will get my partner back if I strategize and try hard enough”) could be addressed in interventions with stalking perpetrators. In addition, mindfulness interventions may be successful in interrupting the link between rumination, negative affect, and problem behaviour (Sotelo & Babcock, 2013).

8.7 Conclusions

This thesis addressed two research aims: 1) Understanding the interconnectedness of IPV and PRS; and 2) Understanding cognition involved in IPV and PRS. This thesis showed that connections between IPV and PRS perpetration were gendered. That is, male IPV and PRS perpetration were meaningfully related, but there was no such link in female perpetrators. In contrast, links between IPV and stalking victimisation were comparable in both genders.

Using a novel, integrated model of IPV and PRS perpetrators’ cognition, the role of both aggressive and relationship cognition in relationship aggression perpetration was examined. Male IPV and PRS perpetrators were both characterised by higher levels of relationship entitlement and general violence-supportive attitudes, supporting the idea that male IPV and stalking perpetration may be underpinned by more similar cognitive content than female IPV and stalking. Female IPV and stalking were predicted by relationship-specific (aggressive) cognition, potentially providing insight into why female partner abuse perpetrators exhibit higher rates of specialisation than their male counterparts. While the thesis findings revealed many gender differences, relationship rumination characterised stalkers of both genders (though did not relate meaningfully to IPV), suggesting that this maladaptive cognitive processing style may have a causal role in stalking behaviour (albeit strong for men). The empirical studies provide indirect support of the ARMs theory’s main contention that
perpetrator cognition combines problematic relationship cognition and aggressive or antisocial cognition.

This thesis illustrated that, while being highly related and having shared correlates, cognitive correlates also differed between IPV and stalking. Despite strong interconnectedness, PRS was not invariably preceded by IPV and not all individuals reporting abusive relationships reported subsequent PRS. It is important that in future research into the relationship between these two behaviours, attention is given equally to their commonalities and their differences rather than conflating the two behaviours. Much work remains to integrate siloed research areas and fully understand cognition involved in interpersonal violence generally and IPV and PRS specifically.

8.8 References


Cooper, A. (2015). *Stalking Attitudes Questionnaire: Development and analysis of a measure of attitudes and normative beliefs about stalking behavior*. (Bachelor of Arts in Psychology, Honours), Swinburne University of Technology, Melbourne, Australia.

Corral, C., & Calvete, E. (2014). Early Maladaptive Schemas and personality disorder traits in
perpetrators of intimate partner violence. The Spanish Journal of Psychology, 17, e1 1-10. doi: http://dx.doi.org/10.1017/sjp.2014.1


Dutton, D. G., & Nicholls, T. L. (2005). The gender paradigm in domestic violence research and

Chapter 8: Integrated Discussion


Felson, R. B., & Lane, K. J. (2010). Does violence involving women and intimate partners have a special etiology? Criminology, 48(1), 321-338. doi: http://dx.doi.org/10.1111/j.1745-9125.2010.00186.x


http://dx.doi.org/10.1037/1089-2680.11.2.193


Levant, R. F., Hall, R. J., & Rankin, T. J. (2013). Male Role Norms Inventory–Short Form (MRNI-SF): Development, confirmatory factor analytic investigation of structure, and measurement invariance across gender. *Journal of Counseling Psychology, 60*(2), 228-
Chapter 8: Integrated Discussion

238. doi: http://dx.doi.org/10.1037/a0031545
Chapter 8: Integrated Discussion


Murphy, C. M. (2013). Social information processing and the perpetration of intimate partner violence: It is (and isn’t) what you think. Psychology of Violence, 3(2), 212-217. doi: http://dx.doi.org/10.1037/a0033344


Sinclair, H. C. (2012). Stalking myth-attributions: Examining the role of individual and contextual
variables on attributions in unwanted pursuit scenarios. *Sex Roles, 66*(5-6), 378-391. doi: http://dx.doi.org/10.1007/s11199-010-9853-8


Chapter 8: Integrated Discussion


9 Appendices

9.1 Submission/Publication Evidence and Authorship Indication Forms

9.1.1 Chapter 3

Svenja Senkans

From: em.vio.04e06ac_3b4bb84cb0@editorialmanager.com on behalf of Psychology of Violence <env@editorialmanager.com>

Sent: Tuesday, 27 September 2016 5:18 PM

To: Svenja Senkans

Subject: Submission Confirmation for Intimate Partner Violence and Post-relationship Stalking Perpetrators' Cognition as Aggressive Relational Schemas - [EMDc10b39958e7037/a4]

Dear Ms. Senkans,

Your submission "Intimate Partner Violence and Post-relationship Stalking Perpetrators' Cognition as Aggressive Relational Schemas" has been received by Psychology of Violence.

You will be able to check on the progress of your submission by logging on to Editorial Manager as an author. The URL is http://vio.edmgr.com/.

Your manuscript will be given a reference number once an Editor has been assigned.

Best regards,
Editorial Office
Psychology of Violence

APA asks that you please take a moment to give us your feedback on the submission process, by completing a short survey, available at http://goo.gl/forms/vRo00cF4Jk.

9 Appendices
Swinburne Research

Authorship Indication Form

For PhD (including associated papers) candidates

NOTE

This Authorship Indication form is a statement detailing the percentage of the contribution of each author in each associated ‘paper’. This form must be signed by each co-author and the Principal Coordinating Supervisor. This form must be added to the publication of your final thesis as an appendix. Please fill out a separate form for each associated paper to be included in your thesis.

DECLARATION

We hereby declare our contribution to the publication of the ‘paper’ entitled:

Intimate Partner Violence and Post-Relationship Stalking Perpetrators’ Cognition as Aggressive Relational Schemas.

First Author

Name: Svenja Senkans

Percentage of contribution: 80 %

Date: 27/9/16

Signature: [Signature]

Brief description of contribution to the ‘paper’ and your central responsibility in the project:

The candidate conducted a wide-ranging literature review, developed the theoretical model, and the overall structure of the paper.

Second Author

Name: Dr. Troy McEwan

Percentage of contribution: 15 %

Date: 27/9/16

Signature: [Signature]

Brief description of your contribution to the ‘paper’:

Dr McEwan supported the refinement of the model and paper structure and editing.

Third Author

Name: Professor James Ogloff

Percentage of contribution: 5 %

Date: 27/9/16

Signature: [Signature]

Brief description of your contribution to the ‘paper’:

Prof Ogloff reviewed the final manuscript for clarity and readability.
<table>
<thead>
<tr>
<th>Principal Coordinating Supervisor Name: Dr. Troy McEwan</th>
<th>Signature:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date: 27/9/16</td>
<td></td>
</tr>
</tbody>
</table>

In the case of more than four authors, please attach another sheet with the names, signatures, and contribution of the authors.
9.1.2 Chapter 4

Svenja Senkans

From: onbehalfof-jiv@u.washington.edu@manuscriptcentral.com on behalf of Journal of Interpersonal Violence
Carthy, JIV+uwashington.edu@manuscriptcentral.com>
Sent: Tuesday, 27 September 2016 5:08 PM
To: Svenja Senkans
Cc: jiv@uwashington.edu
Subject: Journal of Interpersonal Violence - Manuscript ID JIV-16-495

27-Sep-2016

Dear Ms. Senkans:

Your manuscript entitled "Assessing the link between intimate partner violence and post-relationship stalking: A gender-inclusive study" has been successfully submitted online and is presently being given full consideration for publication in the Journal of Interpersonal Violence.

Your manuscript ID is JIV-16-495.

Please mention the above manuscript ID in all future correspondence. If there are any changes in your street address or e-mail address, please log in to Manuscript Central at https://mc.manuscriptcentral.com/jiv and edit your user information as appropriate.

You can also view the status of your manuscript at any time by checking your Author Center after logging in to https://mc.manuscriptcentral.com/jiv.

Thank you for submitting your manuscript to the Journal of Interpersonal Violence.

Sincerely,
Journal of Interpersonal Violence Editorial Office

JIV Policy on Addressing Diversity in Manuscript—Effective January 2016

Effective January 2016 JIV will require that every manuscript include a discussion about the implications of the study questions, underlying research literature, methodology, and analysis or results in terms of diversity. Diversity concerns are not a criteria for publication but must be addressed. The nature of the discussion and amount of space devoted to the discussion is the responsibility of the author(s).

JIV understands diversity to include all aspects of human differences such as socioeconomic status, race, ethnicity, language, nationality, sex, gender identity, sexual orientation, religion, geography, ability, and age.

Diversity as a core value embodies inclusiveness, mutual respect, and multiple perspectives and serves as a catalyst for expanding knowledge and practice with all human beings. While science seeks knowledge that can be generalized, it must appreciate that specific findings, while important in understanding the unique experiences of individuals or groups, are not necessarily applicable to all.
Swinburne Research

Authorship Indication Form

For PhD (including associated papers) candidates

NOTE

This Authorship Indication form is a statement detailing the percentage of the contribution of each author in each associated ‘paper’. This form must be signed by each co-author and the Principal Coordinating Supervisor. This form must be added to the publication of your final thesis as an appendix. Please fill out a separate form for each associated paper to be included in your thesis.

DECLARATION

We hereby declare our contribution to the publication of the ‘paper’ entitled:

Assessing the Link between Intimate Partner Violence and Post-Relationship Stalking: A Gender-Inclusive Study

First Author
Name: Svenja Somkans
Signature: [Signature]
Percentage of contribution: 30%
Date: 27/9/16

Brief description of contribution to the ‘paper’ and your central responsibilities/role on project:
The candidate conducted the literature review, statistical analyses, and drafted the whole paper.

Second Author
Name: Dr. Troy McEwan
Signature: [Signature]
Percentage of contribution: 15%
Date: 27/9/16

Brief description of your contribution to the ‘paper’:
Dr McEwan and the candidate designed the study together and discussed previous drafts of the paper.

Third Author
Name: Professor James Ogloff
Signature: [Signature]
Percentage of contribution: 5%
Date: 27/9/16

Brief description of your contribution to the ‘paper’:
Prof Ogloff reviewed the final manuscript for clarity and readability.

9 Appendices
In the case of more than four authors please attach another sheet with the names, signatures and contribution of the authors.
### Svenja Senkans

**From:** on behalf of Aggressive Behavior <on behalf of editorial@wiley.com@manuscriptcentral.com>

**Sent:** Tuesday, 27 September 2016 5:10 PM

**To:** Svenja Senkans

**Subject:** AB-16-166 successfully submitted

27-Sep-2016

Dear Ms. Senkans,

Your manuscript entitled "Cognitive and relationship characteristics associated with intimate partner violence and post-relationship stalking perpetration" has been successfully submitted online and is presently being given full consideration for publication in Aggressive Behavior.

Your manuscript number is AB-16-166. Please mention this number in all future correspondence regarding this submission.

You can view the status of your manuscript at any time by checking your Author Center after logging into https://mc.manuscriptcentral.com/ab. If you have difficulty using this site, please click the 'Get Help Now' link at the top right corner of the site.

Thank you for submitting your manuscript to Aggressive Behavior.

Sincerely,
Aggressive Behavior Editorial Office
Appendices
Appendices
Development of a Relational Ruminative Questionnaire

Svenja Sennken, Troy E. McSwain, Jason Skues, James R. P. Ogloff

Abstract

Ruminations about romantic relationships have been implicated in interpersonal problems generally, and intimate partner violence and stalking of former romantic partners specifically. While various scales exist to measure depressive, angry, or general rumination, no existing scale comprehensively assesses rumination on romantic relationships. This paper describes the development and validation of the Relational Ruminative Questionnaire (RRQ). The RRQ was developed and tested across two studies involving university students and members of the general population. Study 1 (n = 579) used exploratory factor analysis to develop an 11-item RRQ from a larger item pool. The derived three-factor structure: 1) romantic preoccupation rumination; 2) relationship uncertainty rumination; and 3) break-up rumination was confirmed in Study 2 (n = 325), and the scale was revised to a 16-item version. Total RRQ and subscale scores showed high internal consistency, good test-retest reliability, and expected correlations with related constructs such as insecure attachment, anger rumination, and negative affect. Results indicate that the RRQ can be used in future studies to test of relational rumination is associated with maladaptive relational outcomes such as intimate partner violence and stalking. © 2013 Published by Elsevier Ltd.

1. Introduction

Success in romantic relationships is thought to be a culturally prescribed life goal (Trelfa & Morris, 2008) and a salient developmental task in emerging adulthood (Raine & Cloud, 2008). Accordingly, unresolved love conflict, conflict in romantic relationships, relational uncertainty, and relationship dissolution and reconciliation are major concerns for many people (e.g., Affi & Borchert, 1996; Ackerman, 1996; Allen, 1994; Bostrom & van den Hout, 2011). Various authors have highlighted that rumination thinking about such issues can influence adjustment when relationship goals are frustrated (e.g., Bostrom & Reggelis, 2009; Capuchi & Spiegler, 2011; Capuchi, Spiegler, & Curran, 2010; Safity & Ehrenberg, 2007; Sotero & Tobbacchi, 2005). Rumination is characterised as a form of negative self-focus attention that is observed across various types of psychopathology and problematic behaviour (Ehrling et al., 2011; Ingram, 1999). Although the content of ruminative thinking may differ greatly, it tends to focus on issues that are self-relevant (Ingram, 1999) in internal domains (i.e., self, mood), external domains (i.e., events related to the self), or both (Kirkgaard & Thomsen, 2006). For example, depressive rumination is internal and self-degrading (Ingram, 1990; Nolen-Hoeksema, 1991), whereas angry rumination typically focuses on external events of interpersonal transgressions and what these mean for the self (McCullough, 2001; Sullloolsky, 2007; Sullloolsky, 2007; Wade, Vogel, Lao, & Goldman, 2010). Another commonly recognised feature of ruminative thinking is its repetitive nature; it is also experienced as difficult to control, and difficult to disengage from (Ehrling et al., 2011; Ingram, 1999). Rumination is perceived as unproductive and non-instrumental, while nevertheless occupying significant mental capacity (Ehrling et al., 2011; Nolen-Hoeksema, 1991).

While ruminative thinking can occur in response to a particular negative life event or relational transgression and to can be state-like (Kirkgaard & Thomsen, 2006; Wade et al., 2006), research has demonstrated that ruminative thinking can also be characterised as a stream-like response style (Nolen-Hoeksema, 1991). A ruminative response style is thought to be a characteristic way of thinking that involves focusing on a problem (including negative emotional states), while inhibiting actions or thoughts that may either distract from the problem or contribute to a solution (Ehrling et al., 2011; Nolen-Hoeksema, 1991). The evidence to date suggests that rumination has a negative feedback relationship with affect, meaning that rumination may be caused by negative emotional states, maintain such states, or both (for a review see Kirkgaard & Thomsen, 2006). This is of concern, as rumination has been implicated in a wide variety of negative psychological outcomes, including depression, anger, jealousy, and anxiety (e.g., Aldao, Nolen-Hoeksema, & Schweizer, 2011; Carson & Capuchi, 2006; Nolen-Hoeksema, 1991; Sullloolsky et al., 2001).

Some authors have pointed to the need to further investigate rumination on different themes (e.g., Kirkgaard & Thomsen, 2006). In the

9 Appendices
Swinburne Research

Authorship Indication Form
For PhD (including associated papers) candidates

NOTE
This Authorship Indication form is a statement detailing the percentage of the contribution of each author in each associated ‘paper’. This form must be signed by each co-author and the Principal Coordinating Supervisor. This form must be added to the publication of your final thesis as an appendix. Please fill out a separate form for each associated paper to be included in your thesis.

DECLARATION
We hereby declare our contribution to the publication of the ‘paper’ entitled:

Development and Validation of a Relational Rumination Questionnaire (Personality and Individual Differences)

First Author
Name: Svenja Senkens
Percentage of contribution: 80%
Date: 20/9/16
Signature:

Brief description of contribution to the ‘paper’ and your central responsibilities/role on project:
The candidate conducted the literature review, developed the measure together with Dr McEwan, conducted descriptive, reliability, and validity analyses using SPSS, worked together with Dr Skues on the exploratory and confirmatory factor analyses using MPlus (Muthén & Muthén, June 2013), and drafted the whole paper.

Second Author
Name: Dr. Troy McEwan
Percentage of contribution: 10%
Date: 20/9/16
Signature:

Brief description of your contribution to the ‘paper’:
Dr McEwan and the candidate worked together on the development of the scale and earlier versions of the manuscript.

Third Author
Name: Dr. Janson Skues
Percentage of contribution: 5%
Date: 20/9/16
Signature:

Brief description of your contribution to the ‘paper’:
Dr Skues and the candidate conducted factor analyses together using MPlus (Muthén & Muthén, June 2013). The candidate subsequently interpreted the results.

9 Appendices
Fourth Author

Name: Professor James Ogloff
Signature: 
Percentage of contribution: 5 %
Date: 21/9/16

Brief description of your contribution to the paper:

Prof Ogloff reviewed the final draft manuscript for content, clarity, and readability.

Principal Coordinating Supervisor: Name: Dr. Troy McEwan
Signature: 
Date: 21.09.2016

In the case of more than four authors please attach another sheet with the names, signatures and contribution of the authors.
9.1.5 Chapter 7

Svenja Senkans
From: onbehalfof-arichardson.sagepub@gmail.com@manuscriptcentral.com on behalf of Social Psychological and Personality Science
Sent: Tuesday, 27 September 2016 5:11 PM
To: Svenja Senkans
Subject: Social Psychological and Personality Science Manuscript ID - SPPS-16-0490

27-Sep-2016

Dear Ms. Senkans:

Your manuscript entitled "The Role of Ruminations in Intimate Partner Violence and Post-Relationship Stalking" has been successfully submitted online and is presently being given full consideration for publication in Social Psychological and Personality Science.

Your manuscript ID is SPPS-16-0490.

Please mention the above manuscript ID in all future correspondence or when contacting the office for questions. If there are any changes in your street address or e-mail address, please log in to Manuscript Central at https://mc.manuscriptcentral.com/spps and edit your user information as appropriate.

You can also view the status of your manuscript at any time by checking your Author Center after logging in to https://mc.manuscriptcentral.com/spps.

Thank you for submitting your manuscript to Social Psychological and Personality Science.

Sincerely,
Social Psychological and Personality Science Editorial Office
Swinburne Research

Authorship Indication Form
For PhD (including associated papers) candidates

NOTE
This Authorship Indication form is a statement detailing the percentage of the contribution of each author in each associated ‘paper’. This form must be signed by each co-author and the Principal Coordinating Supervisor. This form must be added to the publication of your final thesis as an appendix. Please fill out a separate form for each associated paper to be included in your thesis.

DECLARATION
We hereby declare our contribution to the publication of the ‘paper’ entitled:

The Role of Rumination in Intimate Partner Violence and Post-Relationship Stalking

First Author
Name: Svenja Senkans
Percentage of contribution: 80%  
Date: 27/9/16

Brief description of contribution to the ‘paper’ and your central responsibilities/reason for inclusion:
The candidate conducted the literature review, statistical analyses, and drafted the whole paper.

Second Author
Name: Dr. Troy McEwan
Percentage of contribution: 15%  
Date: 27/9/16

Brief description of your contribution to the ‘paper’:
Dr McEwan and the candidate designed the study together and discussed previous drafts of the paper.

Third Author
Name: Professor James Ogloff
Percentage of contribution: 5%  
Date: 27/9/16

Brief description of your contribution to the ‘paper’:
Prof Ogloff reviewed the final manuscript for clarity and readability.

9 Appendices
9.2 Copy Right Permissions

9.2.1 Chapter 3.

Applies to Figure 3.2 Systematic elements of role-relationship model (relational schemas).

*Please scroll down/turn page.*
### Permission Grant

**University of Chicago Press**

Permissions Department  
1427 East 60th Street  
Chicago, IL 60637

**Phone:** 773-702-6900 / Fax: 773-702-6996

---

**Swaraj Sanjana**  
Centre for Forensic Behavioural Science  
Swinburne University of Technology  
609 Huddle St,  
Clifton Hill VIC, 3068  
AUSTRALIA

**Date:** August 11, 2016  
**Grant Number:** 109764  
**Request Date:** 08/05/2016  
**Reference Number:** 00495310254

---

**Dear Requestor:**

Thank you for your request for permission to use material from the publication(s) of the University of Chicago Press. Permission is granted for use as stated below. Unless specifically granted below, permission does not allow the use of our material in any other edition or by any additional means of reproduction including (but not limited to) microforms, audiotapes, electronic terminals, and photographs. No disclaimers are available and no assurance of accuracy or completeness can be given. The following conditions apply:

1. On each copy of the selection, full credit must be given to the book or journal, the author (as well as to the series editor, if any), and to the University of Chicago Press as publisher. In addition, the acknowledgement must include the identical copyright notice as it appears in our publication.

2. This permission does not apply to any part of the selection which is independently copyrighted or which bears a separate source notation. The responsibility for determining the source of the material rests with the prospective publisher of the quoted material.

3. This permission grant for the materials listed on the invoice below is provided GRATIS.

4. This Permission covers publication of one edition of the work up to 2500 copies.

5. Permission granted is non-exclusive and, unless otherwise stated, is valid THROUGHOUT THE WORLD IN THE ENGLISH LANGUAGE ONLY.

6. Author approval is not required.

7. Permission is granted GRATIS.

8. This permission is void if more than 10% of your forthcoming work, exclusive of index and bibliography, is composed of University of Chicago Press materials.

---

<table>
<thead>
<tr>
<th>Reference</th>
<th>ISBN</th>
<th>Materials</th>
<th>ExtPrice</th>
</tr>
</thead>
<tbody>
<tr>
<td>00495310254</td>
<td>9780226353753</td>
<td>HOROWITZ, PERSON SCHEMAS MALADAPTIVE INTERPERSONAL PATTERN one figure, p. 22</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

**Order Total:** $0.00  
**Handling:** $0.00  
**Tax:** $0.00  
**Sub Total:** $0.00  
**Payments:** $0.00  
**Balance Due:** $0.00

---

**For Use In:**

a contribution for publication in PSYCHOLOGY OF VIOLENCE and in a PhD thesis for a degree for the Centre for Behavioural Science, Swinburne University of Technology, Melbourne, Australia

---

**Approved By:** ________________________________  Perry Cartwright, Rights & Permissions

---

9 Appendices
9 Appendices
9.2.2 Chapter 7.

Applies to paper reproduced in Chapter 7.

*Please scroll down/turn page.*
9 Appendices
9 Appendices
9.2.3 Chapter 8.

Applies to Figure 8.1 A model of the variables associated with two partners engaged in bi-directional intimate partner violence.

*Please scroll down/turn page.*
### SPRINGER LICENSE TERMS AND CONDITIONS

Sep 06, 2016

This Agreement between Svenja Senkans ("You") and Springer ("Springer") consists of your license details and the terms and conditions provided by Springer and Copyright Clearance Center.

<table>
<thead>
<tr>
<th>License Number</th>
<th>942891282043</th>
</tr>
</thead>
<tbody>
<tr>
<td>License date</td>
<td>Sep 06, 2016</td>
</tr>
<tr>
<td>Licensed Content Publisher</td>
<td>Springer</td>
</tr>
<tr>
<td>Licensed Content Publication</td>
<td>Sex Roles</td>
</tr>
<tr>
<td>Licensed Content Title</td>
<td>Controversies Involving Gender and Intimate Partner Violence in the United States</td>
</tr>
<tr>
<td>Licensed Content Author</td>
<td>Jennifer Langhinrichsen-Rohling</td>
</tr>
<tr>
<td>Licensed Content Date</td>
<td>Jan 1, 2009</td>
</tr>
<tr>
<td>Licensed Content Volume Number</td>
<td>62</td>
</tr>
<tr>
<td>Licensed Content Issue Number</td>
<td>3</td>
</tr>
<tr>
<td>Type of Use</td>
<td>Thesis/Dissertation</td>
</tr>
<tr>
<td>Portion</td>
<td>Figures/tables/illustrations</td>
</tr>
<tr>
<td>Number of figures/tables /illustrations</td>
<td>1</td>
</tr>
<tr>
<td>Author of this Springer article</td>
<td>No</td>
</tr>
<tr>
<td>Order reference number</td>
<td></td>
</tr>
<tr>
<td>Original figure numbers</td>
<td>Fig. 1</td>
</tr>
<tr>
<td>Title of your thesis / dissertation</td>
<td>Relationship Cognition in Intimate Partner Violence and Stalking</td>
</tr>
<tr>
<td>Expected completion date</td>
<td>Sep 2016</td>
</tr>
<tr>
<td>Estimated size (pages)</td>
<td>280</td>
</tr>
<tr>
<td>Requestor Location</td>
<td>Svenja Senkans 2/41 The Circuit</td>
</tr>
<tr>
<td></td>
<td>Melbourne, other 3088 Australia Attn: Svenja Senkans</td>
</tr>
<tr>
<td>Billing Type</td>
<td>Invoice</td>
</tr>
<tr>
<td>Billing Address</td>
<td>Svenja Senkans 2/41 The Circuit</td>
</tr>
<tr>
<td></td>
<td>Melbourne, Australia 3088 Attn: Svenja Senkans</td>
</tr>
<tr>
<td>Total</td>
<td>0.00 AUD</td>
</tr>
</tbody>
</table>

Terms and Conditions
COGNITION IN INTIMATE PARTNER VIOLENCE AND STALKING

Introduction
The publisher for this copyrighted material is Springer. By clicking "accept" in connection with completing this licensing transaction, you agree that the following terms and conditions apply to this transaction (along with the Billing and Payment terms and conditions established by Copyright Clearance Center, Inc. ("CCC"), at the time that you opened your Rightlink account and that are available at any time at http://myaccount.copyright.com).

Limited License
With reference to your request to reuse material on which Springer controls the copyright, permission is granted for the use indicated in your enquiry under the following conditions:
- Licenses are for one-time use only with a maximum distribution equal to the number stated in your request.
- Springer material represents original material which does not carry references to other sources. If the material in question appears with a credit to another source, this permission is not valid and authorization has to be obtained from the original copyright holder.
- This permission
  • is non-exclusive
  • is only valid if no personal rights, trademarks, or competitive products are infringed.
  • explicitly excludes the right for derivatives.
- Springer does not supply original artwork or content.
- According to the format which you have selected, the following conditions apply accordingly:
  • Print and Electronic: This License include use in electronic form provided it is password protected, on Intranet, or CD-Rom/DVD or E-book/E-journal. It may not be republished in electronic open access.
  • Print: This License excludes use in electronic form.
  • Electronic: This License only pertains to use in electronic form provided it is password protected, on Intranet, or CD-Rom/DVD or E-book/E-journal. It may not be republished in electronic open access.

For any electronic use not mentioned, please contact Springer at permissions.springer@spiglobal.com.
- Although Springer controls the copyright to the material and is entitled to negotiate on rights, this license is only valid subject to courtesy information to the author (address is given in the article/chapter).
- If you are an STM Signatory or your work will be published by an STM Signatory and you are requesting to reuse figures/tables/illustrations or single text extracts, permission is granted according to STM Permissions Guidelines: http://www.stm-assoc.org/permissions-guidelines/
- For any electronic use not mentioned in the Guidelines, please contact Springer at permissions.springer@spiglobal.com. If you request to reuse more content than stipulated in the STM Permissions Guidelines, you will be charged a permission fee for the excess content.

For any electronic use not mentioned in the Guidelines, please contact Springer at permissions.springer@spiglobal.com. If you request to reuse more content than stipulated in the STM Permissions Guidelines, you will be charged a permission fee for the excess content.
- If your request is for reuse in a Thesis, permission is granted free of charge under the following conditions:
  This license is valid for one-time use only for the purpose of defending your thesis and with a maximum of 100 extra copies in paper. If the thesis is going to be published, permission needs to be reobtained.

9 Appendices
- includes use in an electronic form, provided it is an author-created version of the thesis on his/her own website and his/her university's repository, including UMI (according to the definition on the Sherpa website: http://www.sherpa.ac.uk/romeo/);
- is subject to courtesy information to the co-author or corresponding author.

Geographic Rights: Scope
Licenses may be exercised anywhere in the world.

Altering/Modifying Material: Not Permitted
Figures, tables, and illustrations may be altered minimally to serve your work. You may not alter or modify text in any manner. Abbreviations, additions, deletions and/or any other alterations shall be made only with prior written authorization of the author(s).

Reservation of Rights
Springer reserves all rights not specifically granted in the combination of (i) the license details provided by you and accepted in the course of this licensing transaction and (ii) these terms and conditions and (iii) CCC's Billing and Payment terms and conditions.

License Contingent on Payment
While you may exercise the rights licensed immediately upon issuance of the license at the end of the licensing process for the transaction, provided that you have disclosed complete and accurate details of your proposed use, no license is finally effective unless and until full payment is received from you (either by Springer or by CCC) as provided in CCC's Billing and Payment terms and conditions. If full payment is not received by the date due, then any license preliminarily granted shall be deemed automatically revoked and shall be void as if never granted. Further, in the event that you breach any of these terms and conditions or any of CCC's Billing and Payment terms and conditions, the license is automatically revoked and shall be void as if never granted. Use of materials as described in a revoked license, as well as any use of the materials beyond the scope of an unrevoked license, may constitute copyright infringement and Springer reserves the right to take any and all action to protect its copyright in the materials.

Copyright Notice: Disclaimer
You must include the following copyright and permission notice in connection with any reproduction of the licensed material:

"Springer book/journal title, chapter/article title, volume, year of publication, page, name(s) of author(s), (original copyright notice as given in the publication in which the material was originally published)." "With permission of Springer"

In case of use of a graph or illustration, the caption of the graph or illustration must be included, as it is indicated in the original publication.

Warranties: None
Springer makes no representations or warranties with respect to the licensed material and adopts on its own behalf the limitations and disclaimers established by CCC on its behalf in its Billing and Payment terms and conditions for this licensing transaction.

Indemnity
You hereby indemnify and agree to hold harmless Springer and CCC, and their respective officers, directors, employees and agents, from and against any and all claims arising out of your use of the licensed material other than as specifically authorized pursuant to this license.

No Transfer of License
This license is personal to you and may not be sublicensed, assigned, or transferred by you without Springer's written permission.

No Amendment Except in Writing
This license may not be amended except in a writing signed by both parties (or, in the case of Springer, by CCC on Springer's behalf).
Objection to Contrary Terms
Springer hereby objects to any terms contained in any purchase order, acknowledgment, check endorsement or other writing prepared by you, which terms are inconsistent with these terms and conditions or CCC’s Billing and Payment terms and conditions. These terms and conditions, together with CCC’s Billing and Payment terms and conditions (which are incorporated herein), comprise the entire agreement between you and Springer (and CCC) concerning this licensing transaction. In the event of any conflict between your obligations established by these terms and conditions and those established by CCC’s Billing and Payment terms and conditions, these terms and conditions shall control.

Jurisdiction
All disputes that may arise in connection with this present License, or the breach thereof, shall be settled exclusively by arbitration, to be held in the Federal Republic of Germany, in accordance with German law.

Other conditions:
V 12AUG2015

Questions? customercare@copyright.com or +1-855-239-3415 (toll free in the US) or +1-978-646-2777.
9.3 University Ethics Committees’ Approval of the Study

9.3.1 SHR Project 2014/104 Ethics Clearance

Please scroll down/turn page.
Svenja Senkans

Subject: FW: SHR Project 2014/104 Ethics Clearance for Modifications (5) [Updated]

From: Keith Wilkins On Behalf Of RES Ethics
Sent: Thursday, 20 August 2015 5:38 PM
To: Troy McEwan <tmcewan@swin.edu.au>; Svenja Senkans <sgoebbels@swin.edu.au>
Cc: RES Ethics <resethics@swin.edu.au>
Subject: SHR Project 2014/104 Ethics Clearance for Modifications (5) [Updated]

To: Dr Troy McEwan, CFBS/FHAD

Dear Troy and Svenja

SHR Project 2014/104 How do you think about romantic relationships?
Dr Troy McEwan, FHAD; Ms Svenja Senkans, Prof James Ogloff et al
Approved Duration Extended to 01/08/2016
Modified August 2014 (x2), March 2015, April 2015, August 2015.

I refer to your request to modify the above project as per your emails of 17 and 19 August 2105. The request, re additional questions on the survey instrument, was in turn put to a SUHREC delegate for consideration.

I am pleased to advise that, as modified to date, the project may continue in line with ethics clearance conditions previously communicated and reprinted below.

Please contact the Research Ethics Officer if you have any queries about on-going ethics clearance, citing the project number. A copy of this email should be retained as part of project record-keeping.

As before, best wishes for the project.

Yours sincerely

Keith

Keith Wilkins
Secretary, SUHREC & Research Ethics Officer
Swinburne Research (H68)
Swinburne University of Technology
P O Box 213
HAWTHORN VIC 3122
Tel +61 3 9214 5218
Fax +61 3 9214 5267

From: Keith Wilkins On Behalf Of RES Ethics
Sent: Monday, 20 April 2015 2:49 PM
To: Troy McEwan
Cc: RES Ethics
Subject: SHR Project 2014/104 Ethics Clearance for Modifications (4)

To: Dr Troy McEwan, CFBS/FHAD
Dear Troy

**SHR Project 2014/104 How do you think about romantic relationships?**
Dr Troy McEwan, FHAD, Ms Svenja Goebbels, Prof James Ogloff et al
Approved Duration Extended to 01/08/2016
[Modified August 2014 (x2), March 2015, April 2015]

I refer to your request emailed on 16 April 2015 concerning modifications to the approved protocol. The request documentation, re additional measure on the Study 2 survey instrument, was put to a SUHREC delegate for consideration.

I am pleased to advise that, as modified to date, the project may continue in line with ethics clearance conditions previously communicated and reprinted below.

Please contact the Research Ethics Office if you have any queries about on-going ethics clearance, citing the project number. A copy of this email should be retained as part of project record-keeping.

As before, best wishes for the project.

Yours sincerely

Keith

------------------------------------------
Keith Wilkins
Secretary, SUHREC & Research Ethics Officer
Swinburne Research (H68)
Swinburne University of Technology
P O Box 218
HAWTHORN VIC 3122
Tel +61 3 9214 5218
Fax +61 3 9214 5267

---

From: Keith Wilkins On Behalf Of RES Ethics
Sent: Thursday, 12 March 2015 10:49 AM
To: Troy McEwan
Cc: RES Ethics
Subject: SHR Project 2014/104 Ethics Clearance for Modifications (3)

To: Dr Troy McEwan, CFRS/FHAD

Dear Troy

**SHR Project 2014/104 How do you think about romantic relationships?**
Dr Troy McEwan, FHAD; Ms Svenja Goebbels, Prof James Ogloff et al
Approved Duration Extended to 01/08/2016
[Modified August 2014 (x2), March 2015]

I refer to your request emailed on 3 March 2015 concerning modifications to the approved protocol. The request documentation, re additional participation arrangements and student researcher, was put to a SUHREC delegate for consideration.

2

9 Appendices
I am pleased to advise that, as modified to date, the project may continue in line with ethics clearance conditions previously communicated and reprinted below.

Please contact the Research Ethics Office if you have any queries about on-going ethics clearance, citing the project number. A copy of this email should be retained as part of project record-keeping.

As before, best wishes for the project.

Yours sincerely

Keith

-----------------------------------------------
Keith Wilkins
Secretary, SUHREC & Research Ethics Officer
Swinburne Research (H68)
Swinburne University of Technology
P O Box 218
HAWTHORN VIC 3122
Tel +61 3 9214 5218
Fax +61 3 9214 5267

From: Astрид Nordmann
Sent: Friday, 22 August 2014 10:51 AM
To: Troy McEwan; Svenja Goebbels
Cc: RES Ethics; James Ogloff
Subject: SHR Project 2014/104 Ethics Clearance for Modifications (2)

To: Dr Troy McEwan/Ms Svenja Goebbels, FHAD

Dear Troy and Svenja

SHR Project 2014/104 How do you think about romantic relationships?
Dr Troy McEwan, FHAD; Ms Svenja Goebbels, Prof James Ogloff
Approved Duration Extended to 01/08/2016 [Modified August 2014 (x2)]

I refer to your request received by email on 21 August 2014 concerning changes to the recruitment procedures to including on-line recruitment. The modification/extension request documentation was put to a SUHREC delegate for consideration.

I am pleased to advise that, as modified to date, the project may continue in line with ethics clearance conditions previously communicated and reprinted below.

Please contact the Research Ethics Office if you have any queries about on-going ethics clearance, citing the project number. A copy of this email should be retained as part of project record-keeping.

As before, best wishes for the project.

Yours sincerely,

Astrid Nordmann
Acting Secretary, SUHREC

-----------------------------------------------
Dr Astrid Nordmann  
Research Ethics Officer  
Swinburne Research (H68)  
Swinburne University of Technology  
PO Box 218, Hawthorn, VIC 3122  
Tel: +613 9214 3845  
Fax: +613 9214 5267  
Email: anordmann@swin.edu.au

From: Keith Wilkins  
Sent: Tuesday, 5 August 2014 4:07 PM  
To: Troy McEwan; Svenja Goebbels  
Cc: RES Ethics; James Ogloff  
Subject: SHR Project 2014/104 Ethics Clearance for Modifications (1)

To: Dr Troy McEwan/Ms Svenja Goebbels, FHAD

Dear Troy and Svenja

SHR Project 2014/104 How do you think about romantic relationships?  
Dr Troy McEwan, FHAD; Ms Svenja Goebbels, Prof James Ogloff  
Approved Duration Extended to 01/08/2016 [Modified August 2014]

I refer to your request received in hardcopy and electronic format on 4 August 2014 concerning changes to the project study protocol, study location, participant cohort, recruitment, consent and survey instruments, with further minor clarification received today. The modification/extension request documentation was put to a SUHREC delegate for consideration.

I am pleased to advise that, as modified to date, the project may continue in line with ethics clearance conditions previously communicated and reprinted below.

Please contact the Research Ethics Office if you have any queries about on-going ethics clearance, citing the project number. A copy of this email should be retained as part of project record keeping.

As before, best wishes for the project.

Yours sincerely

Keith

================================================================================

Keith Wilkins  
Secretary, SUHREC & Research Ethics Officer  
Swinburne Research (H68)  
Swinburne University of Technology  
P O Box 218  
HAWTHORN VIC 3122  
Tel +61 3 9214 5218  
Fax +61 3 9214 5267

9 Appendices
From: Keith Wilkins  
Sent: Friday, 20 June 2014 5:01 PM  
To: Troy McEwan; Svenja Goebbels  
Cc: RES Ethics  
Subject: SHR Project 2014/104 Ethics Clearance

To: Dr Troy McEwan/Ms Svenja Goebbels, FHAD

Dear Troy and Svenja,

SHR Project 2014/104 How do you think about romantic relationships?  
Dr Troy McEwan, FHAD; Ms Svenja Goebbels, Prof James Ogloff

Approved Duration: 01/07/2014 to 01/01/2016

I refer to the ethical review of the above project protocol by Swinburne’s Human Research Ethics Committee (SUHREC). Your responses to the review, as emailed on 18 June 2014 with attachments, were put to the Committee delegate for consideration.

I am pleased to advise that, as submitted to date, ethics clearance has been given for the above project to proceed in line with standard on-going ethics clearance conditions outlined below.

- All human research activity undertaken under Swinburne auspices must conform to Swinburne and external regulatory standards, including the National Statement on Ethical Conduct in Human Research and with respect to secure data use, retention and disposal.

- The named Swinburne Chief Investigator/Supervisor remains responsible for any personnel appointed to or associated with the project being made aware of ethics clearance conditions, including research and consent procedures or instruments approved. Any change in chief investigator/supervisor requires timely notification and SUHREC endorsement.

- The above project has been approved as submitted for ethical review by or on behalf of SUHREC. Amendments to approved procedures or instruments ordinarily require prior ethical appraisal/clearance. SUHREC must be notified immediately or as soon as possible thereafter of (a) any serious or unexpected adverse effects on participants and any redress measures; (b) proposed changes in protocols; and (c) unforeseen events which might affect continued ethical acceptability of the project.

- At a minimum, an annual report on the progress of the project is required as well as at the conclusion (or abandonment) of the project. Information on project monitoring, self-audits and progress reports can be found at: http://www.research.swinburne.edu.au/ethics/human/monitoring/reporting/changes/

- A duly authorised external or internal audit of the project may be undertaken at any time.

Please contact the Research Ethics Office if you have any queries about on-going ethics clearance, citing the project number. Please retain a copy of this email as part of project record-keeping.

Best wishes for the project.

Yours sincerely,

Keith

-------------------------------------------------------------

Keith Wilkins
Secretary, SUHREC & Research Ethics Officer
Appendices
9.3.1.1 Final report acknowledgement.

Svenja Senkans

From: resethics@swin.edu.au
Sent: Tuesday, 2 February 2016 9:03 AM
To: Troy McEwan
Cc: RES Ethics
Subject: Acknowledgement of Report for SUEHC Project - 2014/104

Dear Troy McEwan,

Re: Final Report for the project [Report Date: 01-02-2016]

2014/104 ‘How do you think about romantic relationships?’

The Final report for the above project [Report Date: 01-02-2016] has been processed and satisfies the reporting requirements set under the terms of ethics clearance.

Research Ethics Team
Swinburne Research (H68)
Swinburne University of Technology
PO Box 218
HAWTHORN VIC 3122
Tel: 03 9214 5218
Fax: 03 9214 5267
Email: resethics@swin.edu.au
9.3.2 SHR Project 2014/063 Ethics Clearance

*Please scroll down/turn page.*
RE: SHR Project 2014/063 Ethics Clearance for Modifications/extensions (2)

Astrid Nordmann

Sent: Friday, 29 August 2014 2:09 PM
To: Troy McEwan; Svenja Goebbel
CC: RES Ethics

To: Dr Troy McEwan/ Ms Svenja Goebbel, FHAD

Dear Troy and Svenja

SHR Project 2014/063 Validation of two relationship cognition measures
Dr Troy McEwan CF85/FHAD; Ms Svenja Goebbel
Approved Duration Extended to 01/08/2015 [Corrected Duration]
(Modeled July 2014, August 2014)

I refer to your request received by email on 28th August 2014 concerning addition of three questions to the survey in order to obtain additional demographic information. The modification request documentation was put to a SUHREC delegate for consideration.

I am pleased to advise that, as modified to date, the project may continue in line with ethics clearance conditions previously communicated and reprinted below.

Please contact the Research Ethics Office if you have any queries about on-going ethics clearance, citing the project number. A copy of this email should be retained as part of project record-keeping.

As before, best wishes for the project.

Yours sincerely,
Astrid Nordmann

Dr Astrid Nordmann
Research Ethics Officer
Swinburne Research (H68)
Swinburne University of Technology
PO Box 218, Hawthorn, VIC 3122.
Tel: +613 9214 3845
Fax: +613 9214 5267
Email: anordmann@swin.edu.au

From: Keith Wilkins
Sent: Wednesday, 16 July 2014 1:55 PM
To: Troy McEwan; Svenja Goebbel
CC: RES Ethics; Astrid Nordmann
Subject: SHR Project 2014/063 Ethics Clearance for Modifications (1)

To: Dr Troy McEwan/ Ms Svenja Goebbel, FHAD
Dear Troy and Svenja

**SHR Project 2014/063 Validation of two relationship cognition measures**
Dr Troy McEwan CFBS/FHAD; Ms Svenja Goebbels
Approved Duration Extended to 01/08/2015 [Corrected Duration]
(Modified July 2014)

I refer to your request received in hardcopy on 14 July 2014 concerning expanding participation, an additional survey measure and extended project duration. The modification request documentation was put to a SUHREC delegate for consideration.

I am pleased to advise that, as modified to date, the project may continue in line with ethics clearance conditions previously communicated and reprinted below.

Please contact the Research Ethics Office if you have any queries about on-going ethics clearance, citing the project number. A copy of this email should be retained as part of project record-keeping.

As before, best wishes for the project.

Yours sincerely

Keith

Keith Wilkins
Secretary, SUHREC & Research Ethics Officer
Swinburne Research (H68)
Swinburne University of Technology
P O Box 218
HAWTHORN VIC 3122
Tel +61 3 9214 5218
Fax +61 3 9214 5267

---

From: Keith Wilkins
Sent: Tuesday, 8 July 2014 2:04 PM
To: Troy McEwan; Svenja Goebbels
Cc: RES Ethics
Subject: SHR Project 2014/063 Ethics Clearance Confirmed

To: Dr Troy McEwan/Ms Svenja Goebbels, FHAD

Dear Troy and Svenja

**SHR Project 2014/063 Validation of two relationship cognition measures**
Dr Troy McEwan CFBS/FHAD; Ms Svenja Goebbels
Approved Duration: 13/06/2014 to 30/03/2015 [Adjusted]

I refer to the ethical review of the above project protocol by Swinburne’s Human Research Ethics Committee (SUHREC) and clearance issued on 13 June 2014.

With the student investigator also named, I am pleased to confirm the ethics clearance issued in line with standard on-going ethics clearance conditions outlined again below.
RE: SHR Project 2014/063 Ethics Clearance for Modifications/extension...

- All human research activity undertaken under Swinburne auspices must conform to Swinburne and external regulatory standards, including the National Statement on Ethical Conduct in Human Research and with respect to secure data use, retention and disposal.

- The named Swinburne Chief Investigator/Supervisor remains responsible for any personnel appointed to or associated with the project being made aware of ethics clearance conditions, including research and consent procedures or instruments approved. Any change in chief investigator/supervisor requires timely notification and SUHREC endorsement.

- The above project has been approved as submitted for ethical review by or on behalf of SUHREC. Amendments to approved procedures or instruments ordinarily require prior ethical appraisal/clearance. SUHREC must be notified immediately or as soon as possible thereafter of (a) any serious or unexpected adverse effects on participants and any redress measures; (b) proposed changes in protocols; and (c) unforeseen events which might affect continued ethical acceptability of the project.

- At a minimum, an annual report on the progress of the project is required as well as at the conclusion (or abandonment) of the project. Information on project monitoring, self-audits and progress reports can be found at: http://www.research.swinburne.edu.au/ethics/human/monitoring/Reporting/Changes/

- A duly authorised external or internal audit of the project may be undertaken at any time.

Please contact the Research Ethics Office if you have any queries about on-going ethics clearance, citing the project number. Please retain a copy of this email as part of project record-keeping.

Best wishes for the project.

Yours sincerely,

Keith

-------------------------------------------------------------------------------------------------------------------------------------

Keith Wilkins
Secretary, SUHREC & Research Ethics Officer
9.3.2.1 Final report acknowledgement.

Svenja Senkans

From: RES Ethics
Sent: Tuesday, 28 July 2015 12:41 PM
To: Troy McEwan
Cc: RES Ethics
Subject: Acknowledgement of Report for SUHREC Project - 2014/063

Dear Troy McEwan,

Re: Final Report for the project (Report Date: 20-07-2015)

2014/063 'Validation of two relationship cognition measures'

The final report for the above project (Report Date: 20-07-2015) has been processed and satisfies the reporting requirements set under the terms of ethics clearance.

Research Ethics Team
Swinburne Research (H68)
Swinburne University of Technology
PO Box 218
HAWTHORN VIC 3122
Tel: 03 9214 5218
Fax: 03 9214 5267
Email: resethics@swin.edu.au
9.3.3 MUHREC CF13/1323 – 2013000674 Ethics Clearance

Please scroll down/turn page.
MONASH University
Monash University Human Research Ethics Committee (MUHREC)
Research Office

Human Ethics Certificate of Approval

Date: 2 August 2013
Project Number: CF13/1323 – 201300674
Project Title: Development and validation of an affect- and relationship-specific ruminative measure
Chief Investigator: Dr Troy McEwan
Approved: From: 2 August 2013 To: 2 August 2018

Terms of approval
1. The Chief Investigator is responsible for ensuring that permission letters are obtained, if relevant, and a copy forwarded to MUHREC before any data collection can occur at the specified organisation. Failure to provide permission letters to MUHREC before data collection commences is in breach of the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research.
2. Approval is only valid whilst you hold a position at Monash University.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
4. You should notify MUHREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash University letterhead and the Monash University complaints clause must contain your project number.
6. Amendments to the approved project (including changes in personnel): Requires the submission of a Request for Amendment form to MUHREC and must not begin without written approval from MUHREC. Substantial variations may require a new application.
7. Future correspondence: Please quote the project number and project title above in any further correspondence.
8. Annual reports: Continued approval of this project is dependent on the submission of an Annual Report. This is determined by the date of your letter of approval.
9. Final report: A Final Report should be provided at the conclusion of the project. MUHREC should be notified if the project is discontinued before the expected date of completion.
10. Monitoring: Projects may be subject to an audit or any other form of monitoring by MUHREC at any time.
11. Retention and storage of data: The Chief Investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

Professor Nip Thomson
Chair, MUHREC

cc: Prof James Robert Ogloff, Ms Svenja Goebbles

Postal – Monash University, Vic 3800, Australia
Building SE, Room 111, Clayton Campus, Wellington Road, Clayton
Telephone +61 3 9905 5400 Faxmachine +61 3 9905 3031
Email muhrec@monash.edu http://www.monash.edu/ausresearch/fofhuman/
ABN 12 377 614 012 CRICOS Provider 00006C

9 Appendices
MRO Human Ethics Team
2/08/2013 9:46 AM

to Troy Erin McEwan (Med)
cc James Ogloff (Med), Svenja Goebbelis


2013000674-approval
pdf: 31.7 KB

Dear Researchers

This is to advise that the Monash University Human Research Ethics Committee (MUHREC) has approved the above project.

Project Number: CF13/1323 – 2013000674

Project Title: Development and validation of an affect- and relationship-specific rumination measure

Chief Investigator: Dr Troy McEwan

Please find attached your approval letter for this study. Please note that the Chief investigator is responsible for ensuring that permission letters are obtained, if relevant, and a copy forwarded to MUHREC before any data collection can occur at the specified organisation. Failure to provide permission letters to MUHREC before data collection commences is in breach of the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research.

To ensure speedy turnaround time, this correspondence is being sent by email only. MUHREC will endeavour to copy all investigators on correspondence relating to this project, but it is the responsibility of the first-named investigator to ensure that their co-investigators are aware of the content of the correspondence.

Professor Nip Thomson
Chair, MUHREC

cc: Prof James Robert Ogloff, Ms Svenja Goebbelis

Human Ethics
Monash Research Office

Our aim is exceptional service

Monash University

9 Appendices
Level 1, Building 3e, Clayton Campus
Wellington Rd
Clayton VIC 3800, Australia

Telephone: +61 3 9905 5499
Email: muhrec@monash.edu
Website: http://www.monash.edu.au/researchoffice/human
ABN 12 377 614 012 CRICOS Provider No 00008C

This e-mail (including all attachments) is intended for the named recipient only. If you receive this e-mail in error, please inform the sender immediately by reply e-mail. Also, because the unauthorised use, storage, disclosure or copying of this e-mail (including attachments) may be unlawful, please delete this e-mail (and attachments) from your system and destroy any copies. If you are the intended recipient of this e-mail, please consult the original author before any disclosure, copying or distribution. If this is not explicitly permitted.
MUHREC Amendment CF13/1323 - 2013000674: Development and validation of an affect- and relationship-specific rumination measure

PLEASE NOTE: To ensure speedy turnaround time, this correspondence is being sent by email only. MUHREC will endeavour to copy all investigators on correspondence relating to this project, but it is the responsibility of the first-named investigator to ensure that their co-investigators are aware of the content of the correspondence.

Dear Researchers

Thank you for submitting a Request for Amendment to the above named project.

This is to advise that the following amendment has been approved:

Changes to Recruitment

- Participants may be recruited through posters that will be distributed on the Clayton and Caulfield Campuses (see attached), Monash Memo (same text as poster), and overseas websites (e.g., http://www.dig-prek.nl/).

Thank you for keeping the Committee informed.

Professor Nip Thomson
Chair, MUHREC

Human Ethics
Monash Research Office

Our aim is exceptional service

Monash University
Level 1, Building 3e, Clayton Campus
Wellington Rd
Clayton VIC 3800, Australia

Telephone: +61 3 9905 5490
Email: murec@monash.edu
Website: http://www.monash.edu.au/researchoffice/human
ABN 12 377 614 012 CRICOS Provider No 00008C

This e-mail (including all attachments) is intended for the named recipient only. If you receive this e-mail in error, please inform the sender immediately by reply e-mail. Also, because the unauthorized use, storage, disclosure or copying of this e-mail (including attachments) may be unlawful, please delete the e-mail (and attachments) from your system and destroy any copies. If you are not the intended recipient of this e-mail, please consult the original author before any disclosure, copying or distribution. If this is not explicitly permitted.
MRO Human Ethics Team 29/10/2013 12:01 PM

to Troy Erin McEwan (Med), James Ogiloff (Med), Svenja Goebbels

MUHREC Amendment CF13/1323 - 2013000674:
Development and validation of a relational rumination measure

PLEASE NOTE: To ensure speedy turnaround time, this correspondence is being sent by email only. MUHREC will endeavour to copy all investigators on correspondence relating to this project, but it is the responsibility of the first-named investigator to ensure that their co-investigators are aware of the content of the correspondence.

Dear Researchers

Thank you for submitting a Request for Amendment to the above named project.

This is to advise that the following amendments have been approved:

Changes to Title
- From: Development and validation of an affect- and relationship-specific rumination measure
- To: Development and validation of a relational rumination measure

Changes to Recruitment
- Some participants will be recruited through Webmart, a market research company and will be offered a $10-$15 incentive for participating.
- The incentive for participation for participants who are recruited via posters, on social media, and overseas websites will still be the opportunity to win an iPad or cinema vouchers.

Other Changes
- Revised version of the rumination measure
- Revisions to the second part of the study (concurrent and discriminant validity).
- Inclusion of an additional demographic item asking for information about ethnicity.

Thank you for keeping the Committee informed.

Professor Nip Thomson
Chair, MUHREC
Human Ethics
Monash Research Office

Our aim is exceptional service

Monash University
Level 1, Building 3e, Clayton Campus
Wellington Rd
Clayton VIC 3800, Australia

Telephone: +61 3 9905 5490
Email: muhrcc@monash.edu
Website: http://www.monash.edu.au/researchoffice/human
ABN 12 377 614 012 CRICOS Provider No 00008C

This e-mail (including all attachments) is intended for the named recipient only. If you receive this e-mail in error, please inform the sender immediately by reply e-mail. Also, because the unauthorised use, storage, disclosure or copying of this e-mail (including attachments) may be unlawful, please delete the e-mail (and attachments) from your system and destroy any copies. If you are the intended recipient of this e-mail, please consult the original author before any disclosure, copying or distribution, if this is not explicitly permitted.
9.3.3.1 Final report.

Final Report

Application Information
This is a dynamic PDF form. Depending on your answers, more questions will appear for you to complete and text boxes will expand.

Submission Requirements
Email the following to muhrec@monash.edu:
- One e-copy of the application submitted from the Chief Investigator's Monash email account. Hard copies are not required.
## Project Details

1.1 **Project Number** (eg. CT/4/223 - 2014/00001)

   CF13/1323 - 2013006574

1.2 **Project Title**

   Development and validation of a relational rumination measure

1.3 **Chief Investigator Details**

<table>
<thead>
<tr>
<th>Title</th>
<th>Dr. Troy McEwan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Given Name(s)</td>
<td>Troy Erin</td>
</tr>
<tr>
<td>Last Name</td>
<td>McEwan</td>
</tr>
<tr>
<td>Staff/Student ID</td>
<td>1040447</td>
</tr>
<tr>
<td>School/Department</td>
<td>School of Psychiatry</td>
</tr>
<tr>
<td>Faculty</td>
<td>Medicine, Nursing and Health Sciences</td>
</tr>
<tr>
<td>Campus</td>
<td>Clayton</td>
</tr>
<tr>
<td>Email Address</td>
<td><a href="mailto:Troy.mcewan@monash.edu">Troy.mcewan@monash.edu</a></td>
</tr>
<tr>
<td>Preferred Phone Number(s)</td>
<td>+61 3 9947 2621</td>
</tr>
</tbody>
</table>

1.4 Please indicate the current status of the project

- [ ] Ongoing
- [x] Finished - including projects that have been completed, terminated or abandoned

## Final Report

2.1 Please clarify the current status of this project:

- [x] Data collection is complete and there will be no further involvement with human participants
- [ ] Data collection was started and has since been abandoned
- [ ] Data collection was not started and the project has been abandoned/withdrawn

2.2 Have you received any complaints concerning the conduct of the research? Please provide details.

   No

2.3 Have the approved procedures for confidentiality and security of data been followed?

   - [x] Yes
   - [ ] No

2.4 Please provide a brief description of the outcomes or benefits resulting from the research, and any further avenues of research which may have opened up as a result. The Committee is particularly interested in your comments on ethical issues.

   We have collected data from a total of 578 participants. This data was used to examine the factor structure of the newly developed measure. Further avenues of research include a research project to establish discriminant and convergent validity, and test–retest reliability. Rumination about romantic relationship issues has been implicated in stalking and Intimate Partner Violence (IPV). However, there was no specific, carefully validated measure yet. In future research, we will test if relationship rumination is indeed related to stalking and IPV. Ethical issues did not arise.