Exploring Phenomena of Aggressive Intrusive Thoughts and Aggressive Scripts: The Influence of Associated Beliefs and Features

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BPsySc, Deakin University, 2017

BPsySc (Hons), Deakin University, 2018

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Psychology (Clinical and Forensic Psychology)

Centre for Forensic Behavioural Science

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Swinburne University of Technology

Melbourne, Australia

2023

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ABSTRACT

Thoughts about harming another person are commonly experienced by the general population. Two constructs that pertain to aggressive thought experiences are aggressive intrusive thoughts (AITs) and aggressive scripts. AITs are a common feature of Obsessive Compulsive Disorder (OCD), where thoughts about harming another person are generally not thought to be associated with aggressive acts. Contrastingly, aggressive scripts are defined as thoughts or people experience about harming another person, and are commonly reported by people with a history of violent offending. Current understanding of aggressive scripts stems from academic literature within forensic domains, which hold a primary focus on how aggressive cognitive processes associate with levels of risk and aggressive behaviours. The convergence of research regarding AITs and aggressive scripts is limited despite the similarities in the level of measurement and definition of these constructs. It is important to note however that the consequences associated with these two types of thoughts are purportedly different, with one associated with aggressive acts (i.e., aggressive scripts) and the other with compulsive behaviours often conducted to prevent harmful events from occurring. It is therefore important to further understand the features of AITs in OCD, including their frequent, intrusive, ego-dystonic and distressing nature, and use these features to compare with how aggressive scripts are experienced by people in criminal justice settings who have a history of violence. Against this background, the aim of this thesis was to explore the phenomenology of AITs and aggressive scripts across non-clinical and forensic samples.

A critical review was conducted to explore the similarities and differences between AITs and aggressive scripts, using well established features of intrusive thoughts as a basis for comparison between the two phenomena. The critical review identified that both AITs and aggressive scripts may be experienced as frequent and recurrent, and that thought control strategies may be employed to manage the thought experience. Aggressive scripts were

suggested to differ from AITs with regards to being deliberately rehearsed, provoked by anger inducing situations, and influenced by a history of aggressive behaviour. The emotional precursors and consequences of aggressive script rehearsal were difficult to elucidate as research in this area was scarce, whereas, the emotional experience associated with AITs included feelings of distress and discomfort. Overall, the critical review identified that both AITs and aggressive scripts may be reported as frequent, recurrent, and associated with the use of thought control strategies. Differences between AITs and aggressive scripts were identified with regards to their emotional experience and the influence of past experiences of aggressive behaviour. It remains unclear whether aggressive scripts are experienced as unwanted and intrusive, and if they are associated with distress by those who reported them. Further, the critical review highlighted some challenges with regards to the conceptualisation and measurement of these phenomena.

Empirical study one examined the relationships between self-report measures of AITs, aggressive scripts and their relationship to the beliefs that individuals have about themselves, others, and aggression within a community sample. Specifically, the study examined similarities and difference between the two constructs in terms of specific correlates (i.e., ego-dystonicity, beliefs, aggression). Results demonstrated that anger rumination and violence supportive beliefs were associated with aggressive script rehearsal, and consistent with prior research, aggressive script rehearsal, anger rumination and violence supportive beliefs predicted a history of aggressive behaviour. Further, AITs were found to associate with obsessive beliefs, and only AITs were related with ego-dystonicity. Findings also demonstrated that both AITs and aggressive script rehearsal were associated with the use of thought control strategies. Overall, the findings from this empirical study highlight the importance of maladaptive beliefs in the context of AITs and aggressive script rehearsal, and

demonstrated that features pertaining to beliefs about violence, a life history of aggressive behaviour, and ego-dystonicity may differentiate aggressive scripts from AITs.

Empirical study two explored the experience of aggressive scripts and AITs in a sample of men recruited from a forensic mental health service. Utilising mixed methods, this study explored the characteristics and subjective experience associated with aggressive scripts and AITs. Thematic analysis of qualitative interviews indicated that the experience and impacts of aggressive thinking in individuals with a history of aggressive behaviour are complex, including both positive and negative experiences associated with the rehearsal of aggressive thoughts. The participant interviews highlighted the difficulty in attempting to differentiate between AITs and aggressive scripts using current measures of these constructs. Findings also indicated that aggressive thinking in individuals with a history of violence or anger problems may serve an emotional regulatory function. Overall, these results demonstrate the complexity of aggressive thinking and highlight the many features that may be associated with thoughts related to harming others.

The results from this thesis identify several features pertinent to AITs and aggressive scripts, which may be used as avenues for differentiation. These features include one's history of aggressive behaviour, the endorsement of violence supportive beliefs, and the interpretation of aggressive thoughts as either ego-dystonic or ego-syntonic. Findings also identified some issues with extant measurement instruments used to assess AITs and aggressive scripts, and recommendations for future research and suggestions for how to improve these instruments are discussed. This thesis has clinical implications for both AITs and aggressive scripts, where the identification of features that differentiate these phenomena may improve the early detection of these thoughts and assist with violence risk assessment and treatment for those who report them.

ACKNOWLEDGEMENTS

This thesis would not have been possible without the support from my academic team, friends, and family. I could not have undertaken this journey without you all, so thank you.

To my primary supervisor, Associate Professor Maja Nedeljkovic, I am so grateful and thankful for the endless guidance, reassurance, and support you have given me over this doctoral degree. Thank you for being such a great supervisor.

To my secondary supervisor, Professor Michael Daffern, thank you for your support, for always being available to answer my questions, and for encouraging me throughout this journey. Your supervision has been immensely helpful.

To my associate supervisor, Associate Professor Richard Moulding, thank you for your support, and for the guidance you gave me towards pursuing this doctoral degree. Thank you.

Thank you to the DPsych girls – Abi, Ella and Alissa. I am grateful for you support throughout this, and I am so glad to have shared this journey with you all. To Angelika, thank you for being such a great friend to me, and for the support you have given me throughout this long journey. I have been extremely lucky to have been surrounded by like-minded, intelligent, and kind friends and I will cherish the memories we have shared.

To my loved ones, thank you for the love, support, and encouragement you have given me the past four years. Thank you to my Mum who has supported me throughout all my years of studies, and has encouraged me to always follow my dreams. I am indebted to you. Thank you to my love J – your kindness, patience, and encouragement has been invaluable and I will be forever thankful for your support. Thank you to all who read the many psychology essays, listened to my thesis theories, and who motivated me to keep going.

You all have made completing this doctorate possible, so thank you!

DECLARATION

I, Stephanie Fernandez, declare that this thesis, titled, "Exploring Phenomena of Aggressive Intrusive Thoughts and Aggressive Scripts: The Influence of Associated Beliefs and Features":

1. Contains no material that has been accepted for the award to me of any other degree or diploma, except where due reference is made about this in the text of the examinable outcome
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March 2023

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LIST OF ABBREVIATIONS

AITs	Aggressive Intrusive Thoughts
ARS	Anger Rumination Scale
AUD	Australian Dollar
CBT	Cognitive Behavioural Therapy
CFMHS	Community Forensic Mental Health Service
CINAHL	Cumulative Index to Nursing and Allied Health Literature
DASS	Depression Anxiety Stress Scale
EDQ	Ego-dystonicity Questionnaire
EM	Expectation-Maximisation
ERP	Exposure Response Therapy
FSQ	Fear of Self Questionnaire
GAM	General Aggression Model
III	Interpretation of Intrusions Inventory
IITIS	International Intrusive Thoughts Interview Schedule
LHA	Life History of Aggression
MCAA	Measure of Criminal Attitudes and Associates
MCAR	Missing Completely at Random
MEDLINE	Medical Literature Analysis and Retrieval System Online
OBQ	Obsessive Beliefs Questionnaire
OC	Obsessive-Compulsive
OCCWG	Obsessive Compulsive Cognitions Working Group
OCD	Obsessive Compulsive Disorder
OCI-R	Obsessive Compulsive Inventory - Revised

PTSD	Post-Traumatic Stress Disorder
ROII	Revised Obsessional Intrusions Inventory
SAM	Self Ambivalence Measure
SDS	Social Desirability Scale
SIV	Schedule of Imagined Violence
SPSS	Statistical Package for Social Sciences
STOP	Systematic Treatment of Obsessive Compulsive Phenomena
TCQ	Thought Control Questionnaire
QUIT	Questionnaire of Unpleasant Intrusive Thoughts

LIST OF THESIS PAPERS

Fernandez, S. J., Daffern, M., Moulding, R. & Nedeljkovic, M. (2022). Exploring Predictors of Aggressive Intrusive Thoughts and Aggressive Scripts: Similarities and Differences in Phenomenology. *Aggressive Behavior.*1-3. http://doi.org/10.1002/ab.22061

Fernandez, S. J., Daffern, M., Moulding, R. & Nedeljkovic, M. A Critical Comparison of Aggressive Intrusive Thoughts in Obsessive Compulsive Disorder and Aggressive Scripts in Offender Populations. *Manuscript submitted for publication (Aggressive and Violent Behavior).* (Chapter Four)

Fernandez, S. J., Daffern, M., Moulding, R. & Nedeljkovic, M. Exploring the Experiences of Aggressive Script Rehearsal in a Sample of Adult Males Recruited from a Forensic Mental Health Service. *Manuscript submitted for publication (Journal of Interpersonal Violence).* (Chapter Eight)

PART I – GENERAL BACKGROUND AND INTRODUCTION

CHAPTER 1 – OVERVIEW OF THESIS

1.1 Introduction

Thoughts of harming another person are cognitions commonly reported by the general population as well as people with a history of violent offending (Daff et al., 2015; Rowa & Purdon, 2003). These aggressive thoughts are associated with different outcomes depending on the population these thoughts are investigated in and the measurement instruments used to assess them. Two types of constructs that pertain to aggressive thinking include aggressive intrusive thoughts (AITs) and aggressive scripts. AITs are a common feature of Obsessive Compulsive Disorder (OCD) where thoughts of inflicting harm or injury onto others are experienced as highly distressing and worrying (Rachman, 1997). It is the general consensus that AITs within people presenting with OCD are not associated with overt acts of violence or aggression, rather individuals may go to extraordinary lengths to prevent harm occurring to others after experiencing these thoughts (Veale et al., 2009). Aggressive scripts on the other hand are thoughts about harming another person and are commonly reported within populations drawn from criminal justice and forensic mental health service settings. There is extensive empirical research highlighting the association between aggressive script rehearsal and acts of violence (Grisso et al., 2000).

Current understanding of how AITs are experienced suggests that there is an interaction between different features of intrusive thoughts including level of intrusiveness, ego-dystonicity, and maladaptive beliefs about the self and others, which may influence how aggressive intrusions are appraised (Clark, 2005). Aggressive scripts on the other hand are said to be interpreted through the lens of different normative beliefs about aggression (e.g., Believing that someone who makes you angry deserves to be hit; Mills et al., 2002) and are related to one's past experience with aggressive or violent behaviours. These two types of aggressive thoughts have distinct behavioural outcomes, one with non-existent aggressive

behaviours (i.e., OCD) and the other with a direct relationship with violence (i.e., forensic population). What is not clear in the research is how and why these thoughts, which share content similarity, have diverse behavioural outcomes. There is limited research exploring whether differential features common to AITs (e.g., level of intrusiveness, ego-dystonicity, distress, beliefs) are applicable to the experience of aggressive scripts. Similarities and differences in the phenomenology of these thought experiences does not appear to have been given due consideration. Research exploring these two types of aggressive thoughts has been conducted independently, and within two separate fields of research.

The present thesis argues that AITs and aggressive scripts have some similarities but some associated features differ, which may explain the differences in behavioural outcomes. Exploring the comparable and differentiating features of AITs and aggressive scripts may inform the assessment of violence risk and intervention.

1.2 Thesis Overview

This thesis explores the phenomenology of AITs and aggressive scripts, and investigates the similarities and differences between these thought phenomena. Across seven chapters, the thesis presents some of the literature that informed the current research (chapters two and three), a critical review of the phenomenology of AITs and aggressive scripts (chapter four), the methods and rationale for two empirical studies (chapters five and six), two empirical studies (chapters seven and eight), and an integrative discussion (chapter nine).

Chapter one (current chapter) presents an outline of the thesis topic and the research aims of the thesis.

Chapter two presents a theoretical overview and definition of AITs including a definition of the construct and how it is understood from general intrusive thought conceptualisations. A summary of empirical research exploring cognitive behavioural

explanations of intrusive thoughts is provided. According to these explanations, AITs are associated with obsessive-compulsive symptoms due to the misappraisal of the thought phenomena. The chapter also highlights common measurements approaches to intrusive thoughts.

Chapter three presents a theoretical overview of aggressive scripts. Empirical research from the field of forensic psychology is explored and summarised, and the role that aggressive scripts have on aggressive behaviour is detailed. According to Script Theory (Huesmann, 1988), aggressive scripts are developed through the observation of, or engagement in, aggressive behaviour, and the more one engages with aggressive scripts in mind, the more likely they are to behave aggressively. Additionally, common measurement approaches to the study of aggressive scripts are described.

Chapter four presents a critical review that explores whether characteristics of AITs and aggressive scripts are comparable. Further, the critical review aims to address whether specific features common to intrusive thoughts (e.g., level of intrusiveness, distress, ego-dystonicity) are applicable to current conceptulisations of aggressive script experiences.

Chapters five and six present the methodological approaches for the empirical studies, including a background of the rationale and decision-making processes used for recruitment and data collection.

Chapter seven presents the exploration of AITs and aggressive script phenomena in a non-clinical sample – empirical study one. The purpose of this study was to explore the differential predictors of AITs and aggressive scripts using self-report measures. This chapter includes an overview of AITs and aggressive scripts, followed by the aims and methodology of the study. The results from the regression analyses and the psychometric properties of the scales used are presented and the findings of the study are discussed.

Chapter eight presents the investigation of aggressive thoughts in individuals with a history of aggressive behaviour or problems with aggression and anger – empirical study two. The purpose of this study was to explore the features of aggressive thoughts and examine the subjective experiences associated with aggressive thinking. This chapter includes both qualitative and quantitative results from the study, and presents the themes identified from qualitative analyses. The findings of the study are discussed and the implications of the results are explored.

Finally, chapter nine provides an integrated discussion of the results from the two empirical studies in the context of current literature on AITs and aggressive scripts. The research aims, limitations, and strengths of the research are discussed.

Please note: As the current thesis follows a thesis by publication format, there will be some unavoidable repetition across chapters, particularly in the introductory and methodology chapters and the discussion where results from manuscripts are considered.

1.3 Thesis Research Aims

This thesis aims to explore the phenomenology of AITs and aggressive scripts. Specifically, this thesis aims to determine the similarities and differences in the phenomenology of AITs and aggressive scripts. This thesis will investigate the role that differential beliefs about the self, others, and aggression have on the experiences of AITs and aggressive scripts.

Three research questions were formulated:

1. What is the phenomenology of AITs and aggressive scripts?
2. What are the similarities and differences in the phenomenology of AITs and aggressive scripts?
3. What are the subjective experiences associated with aggressive thoughts?

1.4 Research Impact and Contribution

This project is unique in that it investigates phenomena that show similarities in content (i.e., thoughts about harming another person) but purported differences in behavioural outcomes. These phenomena have not been examined concurrently. The purpose of this project is to determine the differentiating features of AITs, as compared with aggressive scripts, which may inform assessment and clinical practice. Specifically, this study may inform violence risk assessment by determining which features of aggressive thought content are associated with acting aggressively.

To date, the experience of aggressive behaviours in groups of individuals with OCD is non-existent (Booth et al., 2014; Veale et al., 2009). By definition, intrusive thoughts are experienced as unpleasant, distressing, and represent an ego-dystonic aspect of one's self (i.e., not in line with one's sense of self; Moulding, Aardema, et al., 2014a; Purdon et al., 2007). The fears and worries associated with intrusive thoughts, which are commonly reported by individuals with OCD, influence repetitive behaviours in the hope to avert the perceived risks associated with the intrusive thought (Veale et al., 2009). It is therefore the general consensus amongst clinicians with expertise in OCD diagnosis and treatment that little to no risk is associated with intrusive thoughts of an aggressive nature (Aardema & O'Connor, 2007; Veale et al., 2009). However, there has not been prior empirical scrutiny of this assumption. Moreover, the current project seeks to identify the factors associated with the absence of aggressive behaviours in individuals who experience AITs. More specifically, the current project seeks to examine whether aggressive scripts are associated with intrusiveness, discomfort, and various emotional experiences that are commonly associated with AITs.

Limited research has explored the features (e.g., intrusiveness, distress, ego-dystonicity) of AITs that may be similarly experienced by people rehearsing aggressive

scripts. This project will contribute to knowledge on how aggressive thoughts are experienced within a non-clinical and forensic population, and may also inform assessment and treatment avenues for OCD and forensic populations.

CHAPTER 2 - PHENOMENOLOGY OF AGGRESSIVE INTRUSIVE THOUGHTS

This chapter explores and synthesizes research pertaining to intrusive thoughts, specifically aggressive intrusive thoughts (AITs), in OCD. This chapter begins by exploring the prevalence of intrusive thoughts more generally, and describes the experience of AITs and their impacts on those who experience them. This chapter summarises nearly 40 years of intrusive thought theoretical explanations, including contributions from Salkovskis (1985) with the Cognitive Behavioural Model of OCD and Rachman (1997) with his development of the Cognitive Model of intrusive thoughts and obsessions. Measurement of intrusive thoughts is also explored with attention given to issues in differentiating between whether a thought is deemed intrusive or not. This chapter also explores the cognitive appraisals and beliefs that are known to contribute to obsessive-compulsive symptoms, and their relationship with different compulsive behaviours are explored. Attention is also given to a relatively new area of focus in intrusive thoughts, self-themes, and their contribution to obsessive-compulsive symptoms. This chapter ends with an examination of treatments for intrusive thoughts and OCD more generally.

2.1 Intrusive Thoughts

Most individuals have experienced an unpleasant or disturbing thought entering consciousness spontaneously, sometimes without provocation (Clark & Purdon, 1995) and empirical evidence confirms that approximately 94% of healthy individuals will report having experienced a recent intrusive thought (Radomsky et al., 2014). Intrusions have been empirically investigated for several decades, with pioneering research by Rachman and de Silva (1978) defining *intrusions* as unwanted thoughts, images or impulses that are similar in form and content to clinical obsessions. Unwanted thoughts are conceptualised as thoughts or doubts individuals may have about something, whereas images may be conceptualised as

photographs that may appear suddenly in one's mind. Further, impulses are considered the experience of a strong and urgent need to do or say something (Pascual-Vera et al., 2019; Rachman & de Silva, 1978).

An intrusive thought is defined as the experience of persistent and repetitive thoughts about something, that are interpreted as unacceptable and unwanted, and are associated with discomfort (Rachman, 1981). Intrusive thoughts can reflect both negative or positive content themes. For example, experiencing a thought about harming another person is typically regarded as a negative content theme by individuals with OCD, whereas positive intrusive thoughts can be those relating to inspiration and creativity that increase one's motivations or productivity (i.e., thinking about the future, or pleasant memories; Clark & Purdon, 1995; Salkovskis, 1989). Reynolds and Salkovskis (1992) explored the phenomenology of positive and negative intrusive thoughts and identified that negative intrusions are associated with disturbances in mood and distress when thought content is considered unacceptable, whereas positive intrusions are found to occur more frequently, however are not associated with mood deterioration (Reynolds & Salkovskis, 1992). Negative intrusive thoughts can comprise various themes, and the most commonly reported content themes include repeated doubts, sexual thoughts, aggression, and violence (Grisso et al., 2000; Moulding, Aardema, et al., 2014b; Parkinson & Rachman, 1981; Purdon & Clark, 1993). By definition, negative intrusive thoughts are those experienced as ego-dystonic, where the content and experience of the thought is inconsistent with ones' belief system and they are interpreted as alien to the self (Salkovskis, 1985).

It is postulated that intrusive thoughts can be placed on a continuum ranging from normal intrusive thoughts experienced by the general population, to clinical obsessions like those empirically investigated in OCD (OCD; Rachman, 1981; Rachman & de Silva, 1978). More recent theoretical research has challenged this notion of a continuum, questioning the

universality of intrusive thoughts in healthy individuals (Berry & Laskey, 2012; O'Connor, 2002). Berry and Laskey (2012) argue that a strict focus of viewing intrusive thoughts and clinical obsessions on a continuum fails to encapsulate broader factors that explain the differing experiences. In light of this, continuum theory, which purports that clinical obsessions are characterised as a stronger, more severe version of normal intrusive thoughts, has been replaced with a broadening focus on differential factors (i.e., distress, maladaptive appraisal processes, content themes) that may explain differences between what we understand as clinical obsessions versus intrusive thoughts (Berry & Laskey, 2012). Given this, the main defining features that segregate intrusive thoughts from clinical obsessions are not only the frequency with which they are reported (Berry & Laskey, 2012), but also the extent of distress associated, the appraisal process, and the content themes of the intrusion (Belloch et al., 2004; Clark et al., 2000). Given the commonality of intrusive thoughts it can be assumed that intrusive or unwanted thoughts experienced by the general population are able to be disregarded, with little attention or meaning given to their experience (Salkovskis, 1985). However, in situations where intrusive thoughts are appraised as a negative experienced and felt as ego-dystonic, the interaction between an individual's belief system and the appraisal given to the thought results in significant deteriorations in mood and behaviour (Rachman & de Silva, 1978; Salkovskis, 1985). It is this process of interconnections between maladaptive beliefs, appraisals, and behaviours that is central to cognitive behavioural models of intrusive thoughts, which explain the progression of normal intrusions to those commonly reported in cases of OCD (Salkovskis, 1985).

2.1.1 Epidemiology

Several non-clinical and clinical studies have investigated the prevalence and incidence of intrusive thoughts. Early research on intrusive thoughts has confirmed that unwanted intrusive thoughts, images and impulses are experienced commonly by most

participants assessed (Purdon & Clark, 1993; Rachman & de Silva, 1978). More recent empirical research by Radomsky et al. (2014) confirms the commonality of intrusive thoughts, where an international study of non-clinical students from 15 cities, across 12 countries, and over six continents ($N = 777$) found that approximately 94% of participants reported the experience of an unwanted intrusive thought in the previous three months. Studies comparing the incidence of intrusive thoughts between student samples and clinical participants with OCD have identified that both groups experience at least one type of intrusion, where those with OCD experience intrusive thoughts more frequently and with greater distress (Bouvard et al., 2017; Garcia-Soriano et al., 2011). These comparison studies have also identified that non-clinical and clinical samples may differ in the content themes of the intrusive thoughts, however the frequency and level of distress associated with the intrusions appear to be clearer indicators of differences between samples.

While intrusive thoughts can encompass varied content (i.e., doubt, aggression, and sexual themes), several studies have explored which themes are experienced most frequently by community samples (Parkinson & Rachman, 1981; Radomsky et al., 2014; Rowa & Purdon, 2003). A seminal non-clinical study conducted by Parkinson and Rachman (1981) found that 95% of participants (N = 60) reported the experience of an intrusive thought, with the most frequently reported content theme related to death, followed by significant harm or injury to family or friends. Within comparison studies of non-clinical and clinical samples of OCD participants, Bouvard et al. (2017) identified that the most prevalent intrusions for participants with OCD ($n = 28$) related to contamination and doubt, and the most common intrusion for non-clinical participants ($n = 28$) was doubt intrusions. Although both samples demonstrate similarity in thought content, Bouvard et al. (2017) found that participants with OCD experienced intrusive thoughts more frequently than the non-clinical participants. It is important to note however, that there is inconsistency across studies that report the

prevalence of specific content themes between clinical and non-clinical samples, where some studies have found that samples do no differ in thought content (Belloch et al., 2007). Further research is required to investigate whether differential experiences in thought content occur between clinical and non-clinical samples of participants.

2.1.2 Aggressive Intrusive Thoughts

An under studied area of intrusive thoughts are intrusive thoughts with aggressive content themes. AITs are an OCD symptom dimension that comprise themes relating to inflicting physical harm or injury onto another person, which may occur in the form of thoughts, images or urges and have often been reported as symptoms in various mental disorders like depression, schizophrenia, post-partum OCD, sexual-OCD, and OCD more generally (Abramowitz et al., 2003; Grisso et al., 2000; Vella-Zarb, 2017). Thoughts relating to violence[1] and aggression[2] have been commonly researched in social and clinical psychology, with various studies reporting the commonality of such types of thoughts (Grisso et al., 2000; Moulding, Aardema, et al., 2014b). However, the exploration of aggressive thoughts that are experienced intrusively and within clinical psychology domains, like OCD samples (Moulding, Aardema, et al., 2014b), is limited.

The prevalence of AITs is difficult to ascertain from reviews of the literature as differences in the measurement of AITs and definitions across research domains influences the reliability of incidence rates. Rowa and Purdon (2003) found that in an undergraduate student sample (N = 64) the most reported content theme of intrusive thoughts related to harm, aggression, or sexual impulses towards others, with 75% of students confirming this

[1] Violence is defined as an extreme form of aggression with the intention to cause significant harm and cause deliberate serious physical injury (Anderson & Bushman, 2002; Berkowitz, 1993).
[2] Aggression is defined as any behaviour that is carried out with the intention to cause immediate harm toward another person, and that the target person is motivated to avoid this behaviour (Anderson & Bushman, 2002).

experience. However, it is important to note that relevant literature focusing on aggressive or violent intrusions are conflicted in reporting the commonality of such content themes. For example Radomsky et al. (2014) found that aggressive, sexual or "unacceptable" content intrusions were the least commonly reported types of thoughts, where the most frequent included thoughts about doubt (e.g., "did I lock the front door before I left the house?"). Differences in the prevalence of AITs reported as most upsetting between the Rowa and Purdon (2003) and Radomsky et al. (2014) studies may be due to differences in the way intrusive thoughts were measured. Radomsky et al. (2014) utilised highly trained researchers experienced in the administration of the International Intrusive Thoughts Interview Schedule, and interviews with participants were both quantitative and qualitative in nature. Rowa and Purdon (2003) used a self-report measure of intrusive thoughts (e.g., Interpretation of Intrusions Inventory [III]), which required participants to identify their own intrusive thought experiences without specific guidance or further questioning by researchers. It may be that the use of self-report measures of intrusive thoughts, such as those used by Rowa and Purdon (2003), made it easier for respondents to report their repugnant thoughts, as it may have avoided perceived shame and judgement in disclosing these thoughts within an interview context. This highlights the importance of being able to accurately identify these thoughts and differentiate them from other similar phenomena in order for the correct treatment to be offered to those who report these thoughts. Further, recent studies of AITs and intrusive thoughts more generally have identified the risk to which these thoughts pose on suicidality (Brakoulias et al., 2017), where it was found that violent obsessions were significantly associated with suicidality, beyond the association of depressive symptoms (Ching et al., 2017). Considering these implications of AITs, and the mixed findings surrounding the prevalence of intrusive thoughts with aggressive content themes, further investigations are

warranted to elucidate this phenomenon and the prevalence to which such thoughts are experienced.

In order to characterise and differentiate intrusive thought experiences based on their content and form, Lee and Kwon (2003) identified two subtypes of obsessions (*autogenous* and *reactive obsessions*). *Autogenous* obsessions were described as comprising thoughts of a sexual, aggressive, and immoral nature, or impulses and urges that are perceived as inconsistent with one's morals or intentions (i.e., ego-dystonic) – they are also known as unacceptable and repugnant thoughts. These autogenous obsessions are considered to be internally generated, spontaneously appear in one's mind without the presence of an identifiable trigger and are perceived as threatening to the individual. *Reactive* obsession comprised other OCD symptom dimensions including thoughts relating to contamination, symmetry, mistakes and accidents, and are said to be externally triggered. Lee and Kwon (2003) further distinguished differences between *autogenous* and *reactive* thoughts and it is emphasised that autogenous thoughts (like AITs) appear to 'intrude' into one's mind, and are perceived as irrational and ego-dystonic, and are not always related to logical overt control or neutralisation strategies. *Reactive* obsessions were described as being perceived as more realistic, and influence logical thought control strategies that may reduce the perceived negative consequences associated (Lee & Kwon, 2003). Lee and Kwon's (2003) separation of obsessions into two categories provides a basis for classifying and understanding the different heterogenous obsessions in OCD.

Further, unacceptable/taboo thoughts originally were defined as "pure obsessions" that included obsessive thinking with content themes of an aggressive, sexual and/or religious nature. "Pure obsessions" were distinct from typical representations of intrusive thoughts in OCD, where the absence of compulsions were a defining feature emphasised by Baer (1994). However more recent studies have confirmed that unacceptable/taboo thoughts are in fact

separate to “pure obsessions”, as the presence of such intrusions have been reported alongside specific compulsive behaviours (Leonard & Riemann, 2012; Williams et al., 2011)

2.1.2.1 Compulsive Behaviours and AITs

Although compulsive behaviours and neutralisation strategies may be unique to an individual, their use often has a common purpose – to reduce the distress or perceived negative consequences associated with the intrusive thought. In *autogenous* obsessions, like AITs, people usually fear the consequences of having such thoughts intrude their mind and may resort to overt and covert strategies to neutralise or control the intrusions, and to alleviate the negative emotions associated with the intrusion. Research examining the compulsive and neutralising behaviours used to manage AITs is limited. Research in the area of compulsive and neutralising behaviours in OCD has generally focused on the symptom dimension of repugnant obsessions which contains thoughts related to sexual and blashphemous themes and not solely AITs (Lee & Kwon, 2003; Purdon & Clark, 1994a).

Within the context of AITs, individuals experiencing a persistent thought or image of stabbing their friend or loved one, may in this instance, engage in avoidance behaviours, such as limiting their proximity to sharp objects like knives. Additionally, there are instances where covert compulsions are not obvious to individuals who experience AITs, and such experiences have been classed as “pure O” intrusions/obsession (Rachman, 1971). Covert compulsions may include engaging in mental rituals, or neutralising strategies (counting in mid, distracting self) in the hope to reduce the prevalence or intensity of the AIT experience (Belloch et al., 2004). “Pure O” obsessions have been recognised as a symptom dimension of OCD which encompass aggressive, sexual, and religious intrusions but no compulsive behaviours (Baer, 1994). Historically, mental compulsions and reassurance seeking were overlooked as compulsive symptoms in OCD, however more recent advances in OCD

research have recognised that responses to “pure O” obsession are more covert rather than absent (Williams et al., 2011).

Imperative to understanding compulsive behaviours and treatment of OCD is the long-term efficacy of using control or neutralisation strategies for the persistent experience of AITs. As highlighted by Ahern et al. (2015), the use of neutralisation strategies to control unwanted intrusive thoughts more generally significantly reduce the experience of distress. However, Ahern et al. (2015) noted that the return of the unwanted intrusive thought at a later stage increased distress and the need to neutralise the thought. This addresses issues with the longevity of neutralisation strategies over time and raises questions around the efficacy of neutralisation strategies as a way of managing intrusive thoughts in the long term. This has also been addressed in other studies of thought control, where the use of certain strategies has been found to be maladaptive not only for the persistence of intrusive thoughts and dysfunctional beliefs, but also detrimental to general health (i.e., impact of thought control on insomnia and general functioning; Stokes et al., 2022). Moulding, Aardema, et al. (2014a) highlight that cognitive treatments for repugnant obsessions may include cognitive-restructuring which aims to normalise the experience of intrusive thoughts, as well as assisting clients to refrain from using compulsive behaviours. Further, Moulding, Aardema, et al. (2014a) address the importance of aligning treatment goals with helping the individual to learn that their intrusive thought experiences are not meaningful and are not associated with negative consequences. Psychoeducation around the use of neutralisation and compulsive behaviour to manage intrusive thoughts is imperative for understanding OCD phenomena (Moulding, Aardema, et al., 2014a). The research exploring control strategies highlighted that the use of covert or overt methods are motivated towards eliminating the thought or distress, and preventing the associated consequences (Moulding, Coles, et al., 2014). While thought control strategies may provide relief from the negative emotional

experience associated with the intrusive thought, the utility of using such strategies in the long-term remains questionable (Ahern et al., 2015).

In summary, AITs are considered a common symptom of OCD, often classified under the umbrella of repugnant (Moulding, Aardema, et al., 2014a) or autogenous obsessions (Lee & Kwon, 2003). AITs are interpreted as highly immoral and ego-dystonic to the individual and are not associated with aggression or violence (Veale et al., 2009). The experience of AITs is highly distressing to the individual, and it may often motivate the use of overt or covert compulsive strategies to manage the discomfort and perceived consequences associated with the thoughts. The experience of AITs in OCD are not considered a risk for violence as they are reported as highlighy distressing, inconsistent with one's sense of self and conduct, and interpreted as immoral. These features of AITs may prove important in differentiating similar aggressive thought phenomena, and may help to understand what features may act as contributors to violence risk.

2.1.3 Measuring Aggressive Intrusive Thoughts

Intrusive thoughts with aggressive content themes can be measured in a variety of ways, where several questionnaires of intrusive thoughts include sections dedicated to identifying aggressive or violent content (Radomsky et al., 2014). Historically, intrusive thoughts have been measured using self-report instruments like the Revised Obsessional Intrusions Inventory (ROII) developed by Purdon and Clark (1993), which has been implemented in non-clinical communities. The first part of the ROII involves asking individuals to rate their level of endorsement, on a 7-point Likert scale (0 = I have never had this thought"; 6 = I have this thought frequently during the day), towards 52 statements representing intrusive thought contents: aggression, sex, dirt, and contamination. The second part of the ROII involves the participant selecting which of their intrusive thoughts, from part one of the questionnaire, was most upsetting to them, which is evaluated on a 5-point Likert

scale (1 = not at all; 5 = extremely). The ROII also considers the individuals' response to the intrusive thought, by exploring cognitive and thought control processes using 10 appraisal dimensions and 10 thought control strategies (Purdon & Clark, 1994a). The use of self-report measures in the assessment of intrusive thoughts can be effective in measuring these phenomena in non-clinical samples, however, without clear defintions of what constitutes an intrusive thought and how it differs from other similar constructs, these instruments may be limited. Therefore the use of semi-structured interviews alongside self-report measures may provide a safeguard for these conceptual issues. Using semi-structured interview methods, a more recent measure of intrusive thoughts was developed and the International Intrusive Thoughts Interview Schedule (IITIS; Clark et al., 2014; Moulding, Aardema, et al., 2014b; Radomsky et al., 2014) has been empirically tested. The IITIS measures intrusive thoughts similarly to the ROII, by asking participants to rate their endorsement, frequency, distress, and control strategies associated with an intrusive thoughts experience. The use of measures within a semi-structured interview context allows the researcher to clarify conceptual issues respondents may have in identifying what an intrusive thought consists of. This ensures similar constructs such as worrysome thoughts or thoughts that are not intrusive are not explored by mistake (Radomsky et al., 2014).

More recently, a newly developed measure of intrusive thoughts, the Questionnaire of Unpleasant Intrusive Thoughts (QUIT), has been used with non-clinical individuals. The QUIT was derived on the basis of the aforementioned intrusive thought questionnaires (Purdon & Clark, 1993; Radomsky et al., 2014). The QUIT is split into 5 different sections, each delineated to a specific intrusive theme or concern: unpleasant content, physical appearance, diet and physical exercise, health-related, and relationship-related. The unpleasant content section includes items that assess aggressive intrusions (i.e., "harming a person close to me"), and individuals rate the frequency and discomfort associated (Pascual-

Vera et al., 2019). The QUIT has been validated in a non-clinical sample (Pascual-Vera et al., 2019), and findings from this sample have further confirmed the universality of intrusive thoughts with more than half of participants (N = 1,473) reporting having experienced an intrusive thought. It is important to note however, Pascual-Vera et al. (2019) did not investigate the extent to which AITs were experienced, rather intrusive thoughts were collapsed across different disorders (i.e., OCD-related intrusions, Body Dysmorphic Disorder-related, Illness Anxiety/Hypochondriasis, and Eating Disorders).

2.1.3.1 Limitations of AIT Measures and Assessment Considerations

Although validated measures of intrusive thoughts exist which can identify AITs, there appears to be some issues around the measurement of intrusive thoughts with regards to how respondents identify them. Both the ROII and QUIT provide participants with descriptions of what constitutes intrusive thoughts, as this process has been identified as an important element in ensuring that intrusive thoughts are specifically measured and not construed as other similar phenomena (e.g., ruminative thoughts; Clark & Purdon, 1995). However, although these measures stipulate that they measure intrusive thoughts, it has become clear that no single question can be used to identify whether a thought is intrusive or not. Whether a thought is considered intrusive is dependent on a number of factors commonly experienced with intrusive thought phenomena, such as the frequency of the thought, the level of associated distress, and whether the thought is experienced as ego-dystonic (Clark & Purdon, 1995). Consideration of these issues with measurement of intrusive thoughts is covered in chapter four, which provides a critical review of the literature on the measurement and phenomenological background of AITs and aggressive scripts.

In addition to the measurement issues related to the assessment of AITs, there are issues surrounding clinicians' understanding and experience exploring harm related intrusions with clients. There is limited research exploring clinicians' knowledge and ability

to recognise and differentiate AITs from other thought phenomena (e.g., thoughts of harm in psychosis, or aggressive thoughts in individuals with a history of violence). This may be due to the difficulty in one measurement tool containing all features required to differentiate AITs from other similar thought phenomena, as well as the limited research that exists in differentiating AITs from other similar thought constructs, such as aggressive scripts in forensic psychology fields. This highlights a need for further education and consideration of the need to provide clinicians with a better understanding of the prevalence and outcomes for those who report such thoughts (Booth et al., 2014; Friedman et al., 2008). By increasing clinicians' understandings of the current models of OCD and the factors associated with the development and response to AITs, it may provide crucial grounds for clarifying and assessing intrusive thought phenomena against other similar constructs.

2.2. A Cognitive Model of Intrusive Thoughts: Maladaptive Beliefs

2.2.1 Salkovskis' Cognitive Behavioural Model of OCD

In a seminal paper by Salkovskis (1985), the conceptual elements of the cognitive behavioural model of intrusive thoughts are explored, linking various relevant cognitive processes and behaviour. According to this model, intrusive thoughts may be triggered by a wide array of external stimuli, and the difference between healthy individuals who experience intrusive thoughts and those people with a diagnosis of OCD lies within the differential avoidance strategies used to prevent further triggers or inducements for the intrusion (Salkovskis, 1985). This model postulates that obsessional thoughts occur when the content of the thought is experienced as ego-dystonic, reflecting inconsistencies with one's belief system (Salkovskis, 1985). The reaction evoked in an individual will depend on how salient the content of the intrusion is to them, and how the intrusion is filtered through beliefs that are often maladaptive or dysfunctional (Salkovskis, 1985). It is these maladaptive beliefs, that

when activated, influence the individual to appraise their intrusive thoughts in ways that consider the degree of responsibility they should have of the safety of themselves or others, as well as considering all the potential consequences associated with the intrusive thought content.

The appraisal process of intrusive thoughts has been extensively investigated both in non-clinical and OCD studies (Freeston et al., 1991). Emphasised in the literature is the importance of interactions between an individual's belief system and appraisal process, as it leads one to develop negative evaluations about the meaning of their intrusion, and maladaptive inferences about their own self-concept (e.g., "this is a bad thing to be thinking about – therefore I am a bad person"; Salkovskis, 1985). Cognitive behavioural models of intrusive thoughts, such as Salkovskis' model, propose that the transition from normal intrusions to clinical obsessions derives from cognitions individuals engage with to evaluate and assign meaning to the contents of the intrusions (Salkovskis, 1989). Individuals may then engage in different behaviours performed to neutralise or reduce the levels of discomfort associated with the intrusive thought (Purdon & Clark, 1993). This process of obsessions and compulsions are key characteristics of OCD, where the experience of frequent and recurrent obsessions, that are experienced intrusively and associated with distress, are followed with compulsions that are resorted to in the hope to minimise the perceived consequences and distress associated (Purdon & Clark, 1993). The differences between healthy individuals and those with OCD lie in the way the intrusive thoughts are processed, where several studies have confirmed that differential beliefs are key to understanding how maladaptive appraisals may contribute to the development of OCD (Moulding, Aardema, et al., 2014b; Radomsky et al., 2014; Rowa & Purdon, 2003). Various studies have confirmed the relationships that exist between the faulty appraisal process of intrusive thoughts and their frequency (Brakoulias et al., 2014; Izadi et al., 2012; Rowa & Purdon, 2003). This appraisal process is implicated by

specific beliefs pertaining to the *uncontrollability of the thought*, the belief that *the thought may come true* (Belloch et al., 2004; Purdon & Clark, 1994a), *responsibility one assigns to themselves for having the thought* (Salkovskis, 1985, 1989), and the belief that the *thought infers something about one's personality* (Nikodijevic et al., 2015). These faulty appraisals are a prominent feature in OCD where these different beliefs are said to predispose individuals at risk of OCD by contributing towards maladaptive interpretations and compulsive behaviours that function to minimise the discomfort associated (Obsessive Compulsive Cognitions Working Group [OCCWG], 2003).

2.2.2 Rachman's Cognitive Model of OCD

Rachman (1971) proposed that the general population experience intrusive thoughts not unlike those reported by clinical samples. In a comparison study of OCD and non-clinical samples, Rachman and de Silva (1978) found that intrusive thought content was similar between groups, and that differences were revealed in the OCD sample where intrusive thoughts were reported with greater frequency, discomfort, and difficulty in the ability to control the thoughts. In order to understand the mechanisms involved in the process of 'normal' intrusive thoughts developing into clinical intrusions, Rachman (1997) developed a cognitive model for understanding intrusive thoughts, emphasising the role faulty appraisals, that are directed towards the self, have on the perpetuation of intrusive thoughts and compulsive behaviours over time. In support of this, Rachman (1997) observed that the main content of intrusive thoughts relate to abhorrent themes connected to one's moral systems, including aggression, sexual deviance, and blasphemy, which foster a sense of personal significance, impacting the appraisal of the thought. Further, these types of thoughts are often experienced as "sinful, disgusting, alarming or threatening", and may often lead one to interpret these thoughts as revealing hidden components of one's personality, desires, or intentions (Rachman, 1997; p. 795). It is through this interpretation process that individuals

experience distress and fear connected to the perceived consequences of the thoughts (e.g., "I could harm someone"). Once the intrusive thought has been interpreted as containing personal significance, resistance to the thought, in the form of suppression, avoidance, or compulsive behaviours may be used to ameliorate the perceived risks and distress associated (Rachman, 1997).

Rachman (1998) also addressed the different factors believed to influence individuals in misinterpreting their intrusive thoughts. Internal and external provocations have been highlighted to render one vulnerable to experiencing intrusive thoughts, including exposure to stress, bodily sensations that trigger intrusive thoughts, and increases in distress following periods of compulsive actions or unsuccessful thought control strategies (Rachman, 1998). It is through the interpretation of these internal and external cues that intrusive thoughts become salient to the individual and personally significant. Additionally, it is proposed that individuals who hold pre-existing beliefs that certain thoughts are dangerous or important are more likely to become impacted by intrusive thoughts that contain aggressive, sexual or blasphemous contents (Rachman, 1998). Further, Rachman (1998) argued that individuals who possess a 'tender conscience[3]' are vulnerable to obsessional experiences as they are more likely to interpret intrusive thoughts as unacceptable or inappropriate by attaching strong moral values or religious standards. The concept of Thought Action Fusion has also been addressed by Shafran et al. (1999) in influencing misinterpretations of the significance of intrusive thoughts. Specifically, thought action fusion beliefs include believing that the mere presence of an intrusive thought increases the likelihood of a negative event becoming true, as well as believing that having a morally repugnant or blasphemous thought is

[3] A tender conscience has not been explicitly operationalised by Rachman (1998), however Rachman and Hodgson (1980) posit that individuals who hold elevated moral standards and are preoccupied by their personal conduct are likely to possess a tender conscience.

equivalent to committing the morally repugnant behaviour (Shafran et al., 1999). Rachman (1997) also proposed that depression and anxiety proneness can be considered as vulnerability factors to intrusive thoughts by influencing pessimistic outlooks or hypervigilance to external stressors and triggers, respectively.

Rachman's (1997) cognitive model of intrusive thoughts acknowledges the factors contributing to intrusive thought experiences, particularly those concerning unacceptable content themes like aggressive thoughts. Rachman's theory emphasises how intrusive thoughts that are misinterpreted as personally significant become problematic, highlighting the role that maladaptive self-referential beliefs may play in the perpetuation of intrusive thoughts in OCD.

2.2.3 A Summary of Salkovskis and Rachman's Cognitive Models of OCD

The models propsed by Salkovskis and Rachman both highlight the importance of faulty beliefs and their problematic influence over intrusive thought experiences. Salkovskis' theory emphasises the process by which individuals interpret an intrusive thought event, including how one may attach a significant amount of responsibility to themselves for having an intrusive thought experience deemed ego-dystonic. Salkovskis argues that it is through these beliefs, such as percieved responsibility, that a normal thought phenomena may develop into obsessions. Similarly, Rachman's cognitive model highlights the role maladaptive beliefs have on intrusive thoughts, but rather focuses on the moral systems he believes are common to all individuals. These include moral beliefs centred around sex, aggression, violence, and religion, whereby Rachman propses that these moral systems reflect common themes in intrusive thought experiences. While Rachman does address the influence certain beliefs have on the appraisal of intrusive thought experiences, the focus of these beliefs are centred on the personal significance (e.g., I may be a dangerous person) individuals place on themselves after an intrusive thought experience.. Both Salkovskis and Rachman emphasise

how these faulty appraisals may lead individuals to use compulsive, neutralising, or avoidance behaviours to manage their thoughts. Although these models provide a basis for understanding the maintenance of intrusive thought phenomena, these models provide little enquiry as to the origins of these beliefs. Further, the ego-dystonic nature of the intrusive thoughts is considered a factor of importance in these models, however, there is limited conceptualisation of the role ego-dystonicity may play in the trajectory of these thoughts overtime. Neverthless, Salkovskis and Rachman's cognitive models advance understandings of the type of faulty appraisals that influence intrusive thought experiences, highlighting the importance of cognitive mechanisms in intrusive thought development and trajectory.

2.2.3 Maladaptive Beliefs in OCD

The influence of maladaptive beliefs on intrusive thought experiences has been emphasised in cognitive models of OCD developed by Rachman and Salkovskis. In order to understand the specific type of beliefs associated with intrusive thoughts in OCD, research has been dedicated to exploring these belief systems. The Obsessive Compulsive Cognitions Working Group (OCCWG, 1997), a collaborative team of leading researchers in the field of OCD, originally identified six maladaptive cognitions thought to influence the transition from normal intrusive thoughts to clinical obsessions. These included: a) *overestimation of threat*, an exaggerated belief regarding the severity of harm/danger; b) *inflated responsibility,* the belief that one is responsible for the negative outcomes and harm towards oneself and others (e.g., illness, accidents); c) *over-importance of thoughts*, the belief that the mere presence of a thought deems it significant; d) *the importance of controlling thoughts,* the belief that one is responsible for controlling thoughts entering into mind in order to avoid the associated consequences; e) *intolerance of uncertainty,* beliefs about needing to be certain, and that one should be doubtful in the face of uncertainty/ambiguous situations; and f) *perfectionism,* the belief that one should not make mistakes, and that solutions to problems should be perfect.

These different beliefs may be measured using the Obsessional Beliefs Questionnaire (OBQ), and several factor analytic studies have been conducted to determine the most relevant factor solution that encompass the core beliefs in the development and maintenance of obsessive compulsive symptoms (Myers et al., 2008; OCCWG, 2005). To date, the most salient cognitions measured by a short form version of the OBQ (i.e., OBQ-20) confirm four maladaptive beliefs relating to: a) overestimation of threat; b) inflated responsibility; c) the over-importance/control of thoughts, and d) perfectionism/uncertainty (Moulding et al., 2011). These four belief domains are proposed to influence the misinterpretation of an intrusive thought, and in the context of clinical samples of OCD, these beliefs are said to play a contributing role in the transition of normal intrusive thoughts to clinical obsessions (Parkinson & Rachman, 1981; Salkovskis, 1989).

These belief domains have also been explored in non-clinical samples. An international study of intrusive thoughts by Radomsky et al. (2014) found that several of these beliefs, as measured by the OBQ-20, were relevant to the experience of intrusive thoughts. It was found that participants derived meaning of their intrusive thoughts by endorsing specific beliefs such as overestimating the perceived threat and importance of the thought, being intolerable to the anxiety and uncertainty related to the thought, and believing that one was required to control the thought as they deemed themselves responsible for having the thought in the first place (Radomsky et al., 2014). It was also found that perfectionistic beliefs, thought action fusion beliefs, and feeling that the thought was ego-dystonic (i.e., inconsistent with one's self-concept or intentions) were endorsed to a lesser frequency (Radomsky et al., 2014). Given that Radomsky et al. (2014) study included participants from several international sites, the results from this study indicate that the experience of maladaptive beliefs can occur cross-culturally, where the differences between samples of OCD and non-clinical individuals will lie in the frequency and level of rigidity to

which these beliefs are endorsed (Izadi et al., 2012; Radomsky et al., 2014). For example, Izadi et al. (2012) investigated the difference between appraisals of intrusive thoughts experienced by a sample patients with OCD (n = 59) and a healthy control sample (n = 54) in Iran. Using an earlier version of the OBQ (OCCWG, 2005), it was found that both groups utilised the following beliefs in the interpretations of their intrusive thoughts: threat, responsibility, over-importance of thought/control of thought, and perfectionism/uncertainty - and that differences between groups lied in the frequency to which the beliefs were endorsed. The OCD group were found to report higher scores on all belief domains (i.e., OBQ total score), and were more likely to reflect perfectionism/uncertainty beliefs than the healthy control group (Izadi et al., 2012). This is consistent with previous findings which confirm that clinical presentations of obsessive beliefs are more pronounced than that seen in healthy group comparisons (Abramowitz et al., 2009). Findings from both Radomsky et al. (2014) and Izadi et al. (2012) are consistent with previous research in intrusive thoughts (Morillo et al., 2007; Purdon & Clark, 1994b) which postulate that not only are intrusive thoughts experienced by non-clinical populations, but the beliefs endorsed by non-clinical samples reflect similarities to those seen in clinical samples.

2.2.3.1 Maladaptive Beliefs and Specific Content Themes

Investigating the type of maladaptive beliefs that are implicated by specific content themes of intrusive thoughts have been explored recently (Brakoulias et al., 2013; Morillo et al., 2007). Through the investigation of appraisal processes that are involved with specific content themes, like AITs, it has been identified that individuals commonly report such thoughts as "most upsetting" relative to other content themes such as contamination fears (Rowa & Purdon, 2003). With a sample of undergraduate students from various disciplines (N = 64), Rowa and Purdon (2003) found that the most frequent thought reported were those relating to harm or sexual themes. It was found that students who experienced their intrusive

thought as most distressing and upsetting endorsed beliefs of *responsibility* and the need to *control thoughts*. Similar findings to Rowa and Purdon (2003) were identified in a study conducted by Belloch et al. (2004) where it was found that students endorsed appraisals of *importance of controlling thoughts,* as well as beliefs of *unpleasantness* and *unacceptability* when they were prompted to consider the meaning of their most upsetting intrusion. However, Belloch et al. (2004) found that the least frequent intrusive thought were those relating to harm or aggressive behaviours, which is inconsistent with Rowa and Purdon (2003). Thus, these studies provide evidence for the endorsement of OC related beliefs (e.g., importance of controlling thoughts) among non-clinical populations when thinking about upsetting intrusive thoughts. Consistent with early investigations into the appraisal process of intrusive thoughts (Rachman, 1997; Salkovskis, 1989), the significance applied and meaning derived from the content of an intrusion appears to influence how the thought is experienced by non-clinical samples.

Both the frequency and meaning derived to the intrusive thought influences the subjective experience associated with the intrusion. Individuals commonly experiencing intrusive thoughts report high levels of discomfort or distress (Salkovskis, 1989). Within OCD research, AITs are recognised under the symptom dimension of unacceptable/taboo thoughts (Brakoulias et al., 2013). Unacceptable/taboo thoughts which encompass a combination of intrusive content themes (e.g., aggressive, sexual and religious) have been researched within samples of OCD patients, and results from these studies confirm the presence of specific maladaptive beliefs that are implicated by such types of intrusive thought (Brakoulias et al., 2013; Moulding, Aardema, et al., 2014b; Rachman, 1997). Unacceptable/taboo thoughts were investigated by Brakoulias et al. (2013) with a group of participants with OCD (N = 154). The study aimed to investigate the characteristics of unacceptable/taboo thoughts, using a clinician administered semi-structured interview and the

Yale-Brown Obsessive-Compulsive Scale to measure obsessive-compulsive symptoms. Participants were also asked to report their belief styles using the OBQ, to confirm the specific endorsement of beliefs pertaining to the unacceptable/taboo symptom domain. Results from the study found that intrusive thoughts relating to sexual, aggressive and religious themes were implicated by specific beliefs relating to the importance/control of thoughts (i.e., the belief that it is possible and one should exert control of one's thoughts; Brakoulias et al., 2013). The study also confirmed that the increased experience of sexual, aggressive and religious intrusive thoughts was associated with higher levels of distress, increased time spent with the thought in mind, greater levels of hostility, and being male. These findings not only confirm that unacceptable/taboo thoughts involve themes such as physically hurting/injuring someone or profound blasphemy, but that individuals experiencing them are likely to believe that the mere presence of the thought signifies importance, and that the thought should be controlled. Brakoulias et al. (2013) findings, despite being limited to samples of individuals with OCD, are consistent with previous research of similar nature where the experience of intrusive thoughts deemed as most upsetting are associated with the belief of importance of thought and the control of thoughts (Belloch et al., 2004)

Why some thoughts are more salient to individuals than other thoughts has become a focus of research within the OCD domain, with an emphasis placed on the contribution that maladaptive beliefs have on the interpretation and experience of different thought content (Brakoulias et al., 2014). More recent studies have identified how self-related beliefs, which involve misinterpretations of intrusive thoughts by believing they represent hidden or unwanted aspects of one's persona, may be applicable to the experience of intrusive thoughts with abhorrent or unacceptable content themes (Doron et al., 2008; Nikodijevic et al., 2015). These types of self-related beliefs warrant exploration to address the potential contribution

they have to intrusive thought interpretations and furthermore their influence on obsessive compulsive symptoms.

2.2.3.2 Ego-Dystonicity and Aggressive Intrusive Thoughts

It is widely accepted that intrusive thoughts are differentiated from normal cognitions through one major characteristic: ego-dystonicity. Ego-dystonicity is defined as experiencing a thought that has "little or no context within one's sense of self or personality" (Purdon et al., 2007, p. 94). Purdon et al. (2007) emphasises that for a thought to be considered ego-dystonic, the thought is perceived as contradicting one's morals, attitudes, beliefs, intentions, and past-behaviours, and it is associated with significant distress and trepidation.

With regards to AITs, empirical findings have identified how the experience of thoughts about harming another person, particularly loved ones or friends, are often rated as being inconsistent with one's morals and personality, and this has been identified for both individuals diagnosed with OCD and non-clinical samples (Belloch et al., 2012; Purdon et al., 2007). According to the cognitive behavioural model of OCD, ego-dystonic thoughts become problematic to an individual when they assign meaning to their thoughts or questions their moral culpability (Rachman, 1997). It is suggested that because ego-dystonic thoughts by definition are those that are experienced as contrary to one's self-view, the thought occurrence itself is more likely to be assigned a greater significance and interpreted as a threat (Clark, 2004; Garcia-Soriano et al., 2011; Purdon et al., 2007). As explored earlier, dysfunctional beliefs systems are implicated in this process of recognising and appraising intrusive thoughts, especially those that are deemed ego-dystonic. Through this overinterpretation as a result of these dysfunctional beliefs, individuals are likely to resort to obsessive compulsive behaviours to ameliorate the distress and discomfort associated with the thought (Rachman, 1997). However, as noted by Purdon et al. (2007), whether a thought is considered ego-dystonic is dependent on the context in which the thought occurs. For

example, Purdon et al. (2007) found that ego-dystonic thoughts were not always associated with obsessive-compulsive symptoms, and that this relationship did not follow a linear trend. It was postulated that individuals may experience thoughts in a transient or contextual fashion, or ego-dystonic thoughts may be accommodated for over time, perhaps becoming ego-syntonic, and thus alleviating the urge to engage in obsessive compulsive (OC) behaviours. It is also highlighted by Purdon et al. (2007) that intrusive thoughts can initially be appraised as ego-dystonic, and after this thought is experienced frequently and appraised over time, this same thought may be perceived as ego-syntonic and thus accommodated into one's self-view.

Audet et al. (2016) explored the relationship between ego-dystonicity and unwanted intrusive thoughts, specifically examining whether a lack of evidence for the reality of the intrusion influences the degree of ego-dystonicity experienced. Using a student sample (N = 248) participants were asked to identify their most unpleasant intrusive thought, and the background surrounding the experience of the intrusive thought was examined. Following this, three clinicians rated participants responses as to whether they were considered ego-dystonic or ego-syntonic. Results demonstrated that ego-dystonic thoughts were almost always classified as intrusive thoughts that occurred without direct evidence – that is there was no evidence that would suggest the intrusive thought was based on reality (Audet et al., 2016). Findings also revealed that ego-dystonic thoughts were associated with obsessional beliefs concerning threat, responsibility, uncertainty, and importance and control of thoughts; which is consistent with extensive prior research (Rowa & Purdon, 2003). These findings highlight the notion that intrusive thoughts, especially those classified as ego-dystonic, may often occur without evidence of reality. This further addresses the implications of appraisal processes involved in intrusive thought deduction and points to several treatment targets which are explored in later chapters of this thesis. Further empirical exploration of how ego-

dystonic thoughts, particularly those focused on aggressive content, influence the experience and appraisal of intrusive thoughts, and what role ego-dystonicity has overtime is warranted. Exploring the process through which ego-dystonic thoughts become ego-syntonic may prove beneficial to aggressive thoughts more generally.

2.2.4 Self-related Beliefs and OCD

Increased attention has been dedicated to investigating the impact that self-related beliefs have on the appraisal process of intrusive thoughts (Aardema et al., 2013; Nikodijevic et al., 2015). It has been postulated that individuals are more likely to infer contradictions in their own persona or believe that they are immoral when they experience intrusions that are significantly upsetting or contain unacceptable themes (Doron et al., 2008; Rowa et al., 2005). The misinterpretation of intrusive thoughts is suggested to influence the development and maintenance of obsessions, thus warranting investigation into their effects (Doron et al., 2008). Self-beliefs such as the fear of self (Aardema et al., 2013) or self-ambivalence (Bhar & Kyrios, 2007) have been considered important factors in understanding intrusive thought development and maintenance.

2.2.4.1 The Fear of Self

The feared self has been found to relate strongly with OCD presentations, where beliefs concerning "what the self might be or might become" has been found to relate with the content and appraisal process of intrusive thoughts (Aardema et al., 2013; Aardema & O'Connor, 2007; Ferrier & Brewin, 2005). This concept has been researched alongside specific content themes of intrusive thoughts (i.e., aggressive, blasphemous, sexual), where Aardema and O'Connor (2007) argue that these content themes are strongly aligned with perceptions of the "self-as-could-be" rather than the "self-as-is". The relevance that has been highlighted between unwanted/repugnant intrusions and the feared self has been further

confirmed with samples of individuals with OCD (Aardema et al., 2017). Using the Fear of Self Questionnaire (Aardema et al., 2013), Aardema et al. (2017) found that after controlling for obsessional beliefs, negative mood and inferential confusion, beliefs pertaining to the feared self were the only unique predictor of obsessions in a group with OCD. Further, Llorens-Aguilar et al. (2021) explored the experience of actual and feared self perceptions and their association with intrusive thoughts and obsessions in a sample of patients with OCD (N = 58). Participants were asked to identify their most upsetting obsession and intrusion experienced in the past three months. They were then asked to describe their actual self and their feared self, and whether they thought these descriptions were related to their obsession/intrusive thought experience. Results suggested that participants used descriptors such as insecure/volatile, doubtful, anxious, fearful and obsessive, empathetic, good, honest, and joyful to describe their actual self; and descriptors such as materialistic, selfish, cruel, aggressive, bad, dishonest/liar, fearful or cowardly to describe their feared self (Llorens-Aguilar et al., 2021). Findings also suggested that participants believed that their obsessions revealed something about their actual self, and that the experience of their obsession brought them closer to their feared self (e.g., violent, aggressive, manipulative, out of control). These findings support previous characterisations of the feared self (Aardema & O'Connor, 2007; Melli et al., 2016) where the meaning derived to intrusions reflect beliefs pertaining to states of immorality, dangerousness, and insanity towards ones' self-concept (Ferrier & Brewin, 2005). How the feared self relates to intrusions with aggressive themes specifically is not yet clearly understood but given that previous research on unacceptable thought domains has identified significant relationships with the feared self (Aardema et al., 2017) further research may produce similar findings.

2.2.4.2 Self-Ambivalence

Early investigations by Guidano and Liotti (1983) proposed that intrusions become frequent and distressing when they intersect with one's beliefs about their own morality and social approval. Specifically, Guidano and Liotti (1983) described the influence that self-ambivalence has on obsessional thoughts and behaviours, where one's ambivalence towards what their self consists of or overall sense of worth and morality, is said to influence interpretations of intrusions. Self-ambivalence is said to encompass dichotomous type thinking, which entails the self being viewed as either "good" or "bad", with no middle ground (Bhar & Kyrios, 2007). The concept of self-ambivalence shares similar appraisal processing to the feared-self construct, where individuals with high self-ambivalence are more likely to endorse an overall sense of mistrust towards their self-concept (Bhar & Kyrios, 2007; Guidano & Liotti, 1983).

More recently, Bhar and Kyrios (2007) investigated the relationship between self-ambivalence with OCD-specific beliefs and obsessive-compulsive behaviours. In a mixed sample of individuals with OCD, anxiety disorders, and a non-clinical community group, findings from this study indicated that self-ambivalence significantly related to the obsessional beliefs of importance of thoughts, responsibility, and perfectionism; and predicted obsessive-compulsive symptoms, after controlling for self-esteem, depression and anxiety (Bhar & Kyrios, 2007). It was also found that individuals with OCD were more self-ambivalent than the non-clinical community group, however no differences were found between individuals with OCD and anxiety disorders. These findings suggest that individuals who are unsure of their own self-worth and morality, and hold rigid beliefs about what their self-concept consists of (i.e., "good" or "bad") are more likely to experience obsessional beliefs and behaviours. It was postulated that an individual with high self-ambivalence will

experience obsessional beliefs and resort to obsessive-compulsive behaviours in order to maintain control over their thoughts and self-validation (Bhar & Kyrios, 2007).

It is of interest to the current thesis to investigate the relationship between self-ambivalence and AITs, given that previous explorations of self-ambivalence have not limited the type of intrusions experienced by respondents.

2.3 Treatment for Intrusive Thoughts and OCD

While the scope of the thesis focuses on investigating the distinct phenomena between AITs and aggressive scripts, a treatment section has been included to provide context for the clinical assessment and implications of AITs. While not directly related to the aims of the thesis, this treatment section will provide a broader context for the implications of AITs explored in the integrated discussion (chapter 9) of the thesis.

Guidelines for the treatment of intrusive thoughts specifically, are scarce given that these thoughts commonly present with other symptoms of OCD, and thus are treated under the umbrella of OCD treatment guidelines. The gold standard treatment approach for OCD and clinically significant intrusive thoughts and obsessions involves the application of cognitive and behavioural intervention strategies (Clark, 2004). The use of cognitive-behavioural therapy (CBT) is founded on the premise that obsessions, intrusive thoughts, and other obsessive-compulsive symptoms are maintained by the presence of maladaptive cognitive appraisals. It is therefore applicable in the experience of unwanted AITs that modifying cognitive misappraisals and maladaptive beliefs become treatment targets for the management of these symptoms. As elucidated earlier in this chapter, the experience of violent and AITs increased suicide risk, over and above that of depressive symptoms (Ching et al., 2017), highlighting the importance of understanding not only the phenomena of AITs but also their assessment and treatment methods.

As outlined by Clark (2004) CBT approaches in OCD aim to reduce symptom distress through attempts to modify maladaptive appraisals and beliefs including excessive doubt and pre-occupation, as well as considering the use of automatic and enduring neutralisation strategies that maintain intrusive thoughts over time. Early behavioural therapy perspectives considered Exposure and Response Prevention techniques to treat OCD, which include exposing individuals to a feared situation (e.g., holding a sharp object like a knife; in the case of AITs) and preventing them from carrying out their compulsive or neutralisation strategy (Clark, 2004). This continues to form a major component of current CBT techniques for OCD, where the effectiveness of exposure and response prevention treatment approaches have been empirically investigated and support for their use is established (Whittal et al., 2005).

Explored by Clark (2004) are the therapeutic components of CBT for OCD which focuses on processes and applications for modifying faulty appraisals and beliefs related to intrusions. Clark (2004) provides descriptions of processes that can be completed with OCD clients including but not limited to psychoeducation around the cognitive appraisal model and its relationship with OC symptoms, identifying and differentiating faulty appraisals from intrusive thoughts, learning adaptive ways of appraising intrusive thoughts, and behavioural experiments focusing on restructuring maladaptive beliefs attached to intrusive thoughts. Clark (2004) highlights the importance of educating clients on the processes involved in OCD phenomena, especially the perpetuation of OC symptoms through some compulsive and neutralisation strategies.

2.4 Summary

This chapter summarises the key phenomenology and epidemiology of intrusive thoughts, including those specific to AITs. AITs are characterised by frequent, intrusive, and ego-dystonic thoughts that centre on harm or injury occurring to others or loved ones. AITs

are a common feature of OCD, but have also been reported in the general population and amongst people with other mental disorders (Grisso et al., 2000; Moulding, Aardema, et al., 2014a; Rowa & Purdon, 2003). This chapter also explored the cognitive models of OCD which stipulate that AITs become problematic when they are misinterpreted through dysfunctional beliefs (Rachman, 1997). These dysfunctional beliefs influence one to become concerned with the content of the intrusive thought, but also the meaning of the thought and its personal significance (Aardema et al., 2013; Nikodijevic et al., 2015).

Given that AITs within OCD are experienced as ego-dystonic, it is suggested that these thoughts contradict one's self-view and intentions, which in turn increases the likelihood that they interpreted as threatening and important (Clark, 2004; Purdon et al., 2007). It is acknowledged that the experience of AITs in OCD is not associated with aggressive behaviour (Veale et al., 2009), and whether features such as ego-dystonicity and dysfunctional beliefs preclude this behaviour warrants investigation. This chapter also addressed treatment considerations for intrusive thoughts and OCD more generally, highlighting the importance of CBT and ERP as components of treatment modalities.

CHAPTER 3 - PHENOMENOLOGY OF AGGRESSIVE SCRIPTS

Chapter three defines and explores the phenomenon of aggressive scripts and synthesizes research related to aggressive script rehearsal. The frequency of occurrence of aggressive scripts in various populations is highlighted, as well as issues related to measurement of aggressive scripts given its overlap with other related constructs such as aggressive fantasies and aggressive rumination. This chapter summaries cognitive theories of aggression including the pioneering research from Huesmann and Eron (1984) exploring factors related to aggressive behaviour, and more recent developments by Denson (2013) which considers the impacts of the related and opotentially overlapping phenomena of angry rumination and its relationships with anger and aggression. This chapter considers aggressive scripts in the context of other relevant constructs including aggressive fantasies and anger rumination, and aims to educate the differences between these constructs based on current empirical findings.

3.1 Aggressive Scripts

Aggressive scripts are defined as thoughts or daydreams about physically harming another person (Grisso et al., 2000). Research around aggressive scripts is most commonly conducted within forensic fields where the interaction between aggressive thoughts and aggressive behaviour has been researched, particularly from a social psychological perspective (Grisso et al., 2000; Huesmann, 1988; Moeller et al., 2017). To date, the intersection of AITs and aggressive scripts has not been clearly investigated and the subjective experience of either phenomena has not been directly compared.

Prior research has identified various cognitive processes relevant to the experience of aggressive scripts (Huesmann, 1988; Huesmann & Eron, 1984; Huesmann & Guerra, 1997). Huesmann (1988) defines scripts as cognitions that are stored in one's memory and are activated by external environmental cues and which guide behaviour. Conceptually, aggressive scripts are knowledge structures[4] that play a role in the information-processing system and guidance of aggressive thinking and behaviour (Gilbert et al., 2013; Huesmann & Eron, 1984). Following a similar process to the acquisition of knowledge, aggressive scripts are maintained in an individual's cognitive repertoire by encoding, rehearsal, and retrieval processes (Huesmann & Eron, 1984). In the encoding process, a representation of an external stimuli (e.g., how aggressive behaviour is performed) is formed into one's memory, with differential cues within the environment attached to this representation (Huesmann & Eron, 1984). Once this representation is formed, which is now phenomenologically considered an aggressive script, the rehearsal of this script will determine its retention in memory. This rehearsal process can take many forms inclusive of simple recall, fantasising, or play acting (Huesmann & Eron, 1984). Retrieval of an aggressive script involves one's ability to access the script in memory, and it is during this process that the differential cues which were attached to the script during the encoding phase, play a useful role in facilitating access to the script (Gilbert et al., 2017; Huesmann & Eron, 1984). It is postulated that the more an individual behaves aggressively, or observes aggressive acts, the more exposure they have to the encoding process of an aggressive script (Huesmann & Eron, 1984).

[4] Knowledge structures are related to schemas, which are encoded in memory and contain knowledge on a concept, its characteristics, and relationship with other related concepts. Scripts represent a schema which contain information on the expected events and behaviours associated with a particular situation (Huesmann, 1988).

Several studies by Huesmann (1988; 1998) and colleagues (Huesmann & Eron, 1984; Huesmann & Guerra, 1997) have identified factors that determine the likelihood of individuals engaging with their scripts, thus predisposing them to aggressive behaviours. It is proposed that the more an individual rehearses the script in mind, the stronger the connections of the script in memory, which facilitates its retrieval in similar or provoked environments (Huesmann & Eron, 1984). In a 3-year prospective study, Huesmann and Eron (1984) investigated the role that cognitive rehearsal of aggressive scripts have on aggressive behaviour. Sampling a primary school children cohort (N = 800) and replicated with samples of over 200 to 300 children in Finland, Israel, and Poland, and Australia it was found that children who engaged in aggressive-type fantasies were more likely to act aggressively, as measured by peer-nominated aggression. Within this study, the concept of fantasies was measured as a child's daydream, nightdream, and imaginary play experience using Rosenfeld et al. (1982) scale of Children's Fantasy Inventory. This experience was what researchers used to determine a child's engagement with an aggressive script, where they proposed that fantasising about aggression in the aforementioned ways was considered a cognitive rehearsal process. This rehearsal process is a core component of the aggressive script model that proposes the more an individual engages or rehearses an aggressive act or fantasises it in mind, the more likely they are to think and act aggressively (Huesmann, 1988; Huesmann & Eron, 1984). A particular area worthy of consideration is the subjective experience of an individual during this rehearsal process of the aggressive script. Hosie et al. (2021) showed that in a sample of incarcerated males with a history of violence (N = 94), a range of emotions were associated with aggressive script rehearsal but that feeling positive towards their aggressive script rehearsal was associated with a greater inclination to aggression. To date, there is limited research that has examined how individuals feel during the rehearsal of aggressive scripts. Rather, extensive research has identified the role fantasies play on mood

states and subjective experiences (Carabellese et al., 2011; Halderman et al., 1985; Klinger, 1990). Exploration of the emotional states associated with aggressive script rehearsal will improve our understanding of this phenomena.

3.1.1 Epidemiology of Aggressive Scripts

The prevalence of aggressive scripts has been explored within several studies, however differences in the measurement of aggressive script experiences has made it difficult to ascertain accurate indication of the extent of the phenomenon. Grisso et al. (2000) found that in a sample of hospitalised acute inpatients (N = 1,136) approximately 30% (n = 339) reported previously experiencing daydreams or thoughts about physically hurting or injuring another person, and that these aggressive scripts occurred more frequently than once a week for about half of patients who reported such thoughts. Similar frequency rates of aggressive scripts were also found by Daff et al. (2015) in a community sample of males with a history of offending (N = 71), with 55% of respondents reporting they had rehearsed aggressive scripts at least several times a year and within the last two months. Both Grisso et al. (2000) and Daff et al. (2015) used the Schedule of Imagined Violence (SIV) to measure the frequency of aggressive script rehearsal.

The experience of aggressive scripts in non-clinical samples of individuals with no known histories of violence has also been reported. Auvinen-Lintunen et al. (2015) found that in a sample of university students (N = 617), approximately 67% of respondents endorsed 'homicidal thoughts', with males reporting these thoughts more frequently than females. These findings are consistent with earlier explorations of homicidal thoughts by Kenrick and Sheets (1993) which also identified that 68% of undergraduate psychology students (N = 312) reported having experienced at least one homicidal fantasy, with males endorsing these fantasies more frequently than females. In both Auvinen-Lintunen et al. (2015) and Kenrick and Sheets (1993) respondents were given descriptions of what homicidal thoughts/fantasies

consist of to assist participants in identifying these thoughts in mind. These findings, which show commonality of aggressive script rehearsal in non-clinical samples, have been identified in further studies including Crabb (2000) and Nagtegaal et al. (2006), which have revealed similar prevalence rates to the studies mentioned prior. Reflecting on the studies which have demonstrated prevalence rates of aggressive scripts in both forensic and non-clinical samples, it appears that the experience of thoughts about harming another person may be considered a common phenomenon which requires further investigation.

3.1.2 Measuring Aggressive scripts

It is suggested that aggressive scripts are activated in situations involving provocation, influencing the individual to think aggressively, and in some cases act aggressively too (Riskind et al., 2007). To date, aggressive scripts are commonly measured using the Schedule of Imagined Violence (SIV; Grisso et al., 2000). Similar to measures of intrusive thoughts, the SIV measures the frequency, recency and content of an aggressive thought, as well as additional details relating to aggressive behaviour (e.g., nature of harm, proximity to target in thought, and the extent to which the thought will escalate or diminish). However, the SIV does not assess the subjective experience associated with the aggressive script, nor does it consider the level of distress or discomfort that may be related.The subjective experience and emotional reaction to thought experiences are a core determinant of intrusive thought phenomenology. Understanding the subjective experience and associated emotional rections of aggressive script rehearsal may aid in the differentiation of this construct from other similar phenomena. The extensive research that has reviewed aggressive scripts using the SIV have documented how such thinking patterns influence aggressive states and violent behaviours within forensic samples (Grisso et al., 2000; Moeller et al., 2017). The research on aggressive scripts is limited however, due to scant investigation of the subjective experience and emotional response to such thoughts. To date, DeLapp et al. (2018)

and Hosie et al. (2021) appear to be the only recent studies investigating the emotional experiences associated with aggressive script rehearsal. DeLapp et al. (2018) found that aggressive thoughts were experienced as intrusive and distressing in a student (n = 103) and incarcerated sample (n = 78), and Hosie et al. (2021) identified that a range of emotions including anger, hate, sadness, and confusion were associated with aggressive script rehearsal in a sample of incarcerated males (N = 94). Investigating the extent to which aggressive scripts are experienced as intrusive, the level of emotionality associated, and additional features inclusive of maladaptive beliefs would provide knowledge of how different cognitive factors influence aggressive thinking. Further, understanding the subjective and emotional experiences associated with aggressive scripts may help to clarify whether they are similar or different to AITs.

3.2 Cognitive Theories of Aggressive Scripts

Social cognitive theories have extensively emphasised the role that different cognitive processes have on both the appraisal of aggressive scripts (Bushman & Anderson, 2002; Huesmann & Guerra, 1997). The General Aggression Model (GAM; Bushman & Anderson, 2002) is a social-cognitive model which postulates that aggressive behaviour is largely influenced by a combination of knowledge structures involved in a cognitive information processing sequence which influence the development of aggressive behaviours (Huesmann & Eron, 1984). Another theory that guides understanding of aggressive thinking and its relationships with aggressive behaviour is Script Theory (Huesmann, 1988, 1998) which proposes that behaviour is guided by mental templates (scripts). GAM incorporates multiple specific theories, including Script Theory. Similarly, another model that seeks to explain aggression and its development is the Multiple Systems Model devised by Denson (2013) which posits that angry rumination, conceptualised as "perseverative thinking about a personally meaningful anger-inducing event", plays a role in activating different

physiological, cognitive, affective, and behavioural processes which all interact in maintaining or increasing aggression (Denson, 2013, p. 103). Denson (2013) also suggests that angry rumination may include feelings of anger, or thoughts about revenge – this appears to be the similarity shared with aggressive scripts which concern thoughts of harming others, often in cases of revenge (Grisso et al., 2000). The following section will explore these three theories of aggressive thinking and behaviour relevant to aggressive scripts: the General Aggression Model, Script Theory, and the Multiple Systems Model and address their relationship with aggressive script rehearsal using empirical research.

3.2.1 Script Theory

Script theory (Huesmann, 1988, 1998) proposes that aggressive behaviour is guided by cognitions known as 'scripts'. As a cognitive information-processing model, this theory purports that cognitive scripts, which are learnt through observation or displays of aggressive behaviour, are stored in a person's memory and are used to guide aggressive behaviour (Huesmann, 1988, 1998). A script is said to include both procedural knowledge (i.e., how aggressive behaviour is performed) and declarative knowledge (i.e., factual information regarding aggressive events), and the script is proposed to suggest what the likely outcome of events will be, as well as how one should behave in accordance with the events at play (Huesmann, 1998). Once created, a script is said to develop from a 'controlled' to 'automatic' mental process which becomes resistant to change, particularly when they are frequently rehearsed or enacted (Huesmann, 1998). When a script becomes automatic and is part of an individual's cognitive repertoire, the individual is more likely to accommodate and normalise aggressive behaviour, commonly known as 'normative beliefs' (see below; Huesmann, 1998). These beliefs influence scripts by providing guides for evaluating behaviour, such as deciding whether certain scripts or behaviour are appropriate (Huesmann, 1998; Huesmann & Guerra, 1997). Scripts are proposed to be activated through various situations, including

one's mood state (anger, hostility), arousal, or aggression-related schemas (i.e., perceiving others as holding hostile intentions), through one's interpretation of social cues (e.g., viewing a weapon may activate the retrieval of scripts associated with using weapons; Huesmann, 1998), as well as one's preparedness and self-efficacy in responding non-aggressively. When scripts are frequently rehearsed in mind, they become more easily accessible, and their connection with aggressive behaviour is strengthened.

3.2.2 The General Aggression Model

The GAM postulates that aggression is motivated by aggression-related structures that are stored in memory (e.g., aggressive scripts, normative beliefs about violence) and when activated, contribute to aggressive behaviours (Bushman & Anderson, 2002). This model also acknowledges the influence of social learning over time, and how an individual's experience of aggression, either through observation or performance, contributes to their understanding and future applications of aggression (Bushman & Anderson, 2002). According to this model, an individual's propensity to act aggressively is determined by situational factors (e.g., provocation or anger-inducing event), one's preparedness (e.g., pro-attitudes towards violence), environmental influences (e.g., family practices), and biological determinants (e.g., executive functioning; Anderson et al., 2007). Aggressive scripts are relevant to this model in that they may be activated by anger-inducing provocations, where the thought of harming another person is then maintained by differential normative beliefs about violence (Bushman & Anderson, 2002). This in turn influences an individual's affect by increasing arousal and angry feelings (Bushman & Anderson, 2002). According to Huesmann and Eron (1989), aggressive scripts are stored in one's memory and acts as guides for behaviour. It is postulated that individuals who have a propensity to act aggressively are likely to contain more aggressive scripts in mind and rehearse them more frequently (Huesmann, 1998). Within the GAM it appears that aggressive scripts play a central role in maintaining

aggressive behaviour in one's repertoire by not only guiding aggressive behaviour in anger-induced events, but also by providing individuals with the likely outcomes associated with these behaviours which are based on past experiences of aggression (Gilbert & Daffern, 2017).

3.2.3 The Multiple Systems Model

The Multiple Systems Model emphasises the role angry rumination has on aggressive behaviour, and the implications this type of rumination has on executive control abilities and emotional regulation (Denson, 2013). Specifically, the model explores how angry rumination implicates different systems (i.e., cognitive, neurobiological, affective, executive control, and behavioural) which in turn influences aggression. The Multiples Systems Model differs from the GAM in that its focus is on how and why people ruminate on anger provoking events, rather than merely focusing on why people become aggressive (Denson, 2013). Although aggressive scripts can be induced through the experience of anger-provoking events (e.g., threats to one's ego), it is important to note that aggressive scripts may appear spontaneously and are not restricted to scripts of acting in revenge or retaliation (Patel, 2015) . According to Denson (2013), angry rumination can encompass different forms: provocation-focused or self-focused rumination. Denson (2013) highlights how one's engagement with provocation-focused rumination is more likely to increase anger and aggressive behaviour, compared to self-focused rumination, which is concerned with how different events can have implications on oneself, which contrastingly appears to impact one's affect rather than influencing aggression. The conceptual ambiguity that exists between aggressive scripts and anger rumination highlights the importance of considering definitions of these constructs (Hosie, Simpson, et al., 2022). Anger rumination is concerned with perseverative thinking of anger-inducing events, or situations of provocation, whereas aggressive scripts represent the aggressive action or plan for aggressive behaviour (Hosie, Simpson, et al., 2022).

To explore the effects of provocation-focused anger, Bushman (2002) divided 600 undergraduate students into three randomly assigned groups: provocation focused rumination, distraction, and control. Participants were insulted and then asked to hit a punching bag. Participants in the provocation-focused rumination condition were asked to think of the insulting person whilst hitting the punching bag, and those in the distraction condition were asked to think about become physically fit whilst hitting the punching bag. Participants in the control group were asked to sit for two-minutes and were not instructed to think about anything specifically. Results from this study found that participants in the provocation-rumination condition reported higher self-reported anger, than participants in the distraction and control conditions (Bushman, 2002). Following from this study's findings, Pedersen et al. (2011) also investigated whether differences in self-reported anger exist depending on the type of anger-rumination process. Pedersen et al. (2011) found that provocation-focused rumination increases self-reported angry affect, however, self-focused rumination saw increases in self-critical negative affect (i.e., feeling disappointed with oneself; feelings of regret). Findings from Pedersen et al. (2011) study suggests that the type of rumination process individuals engage in have an impact on aggression and one's affect.

Where aggressive scripts sit within the Multiple Systems Model is still under investigation, and whether aggressive scripts are synonymous to angry rumination requires further exploration and scrutiny. Current understandings suggest that aggressive scripts and anger rumination share similarities with regards to inducing feelings of anger, and perpetuating thoughts around situations of provocation. However, whether differences exist with regards to the influence anger rumination and aggressive scripts have on the experience of aggressive behaviour requires further exploration.

3.2.4 Normative Beliefs and Attitudes Supportive of Aggression

As highlighted in social cognitive models of aggression and aggressive scripts, normative beliefs and attitudes supportive of aggression appear to play a significant role in the experience of aggressive script rehearsal and subsequent aggressive behaviour. These normative beliefs concern the acceptability of aggressive behaviours towards others in certain situations, and have been found to predict acts of aggression and violence in several forensic research studies (Archer & Haigh, 1997; Mills et al., 2002; Sukhodolsky & Ruchkin, 2004). Two recent studies have identified that specific beliefs and attitudes that endorse aggression are related to aggressive script rehearsal (Gilbert et al., 2013; Podubinski et al., 2017). Gilbert et al. (2013) examined whether normative beliefs and attitudes that support aggression post-dicted aggressive behaviour. In a community forensic sample (N = 87), with a history of violent offences, respondents were examined with regards to their rehearsal of aggressive scripts, their normative beliefs which endorsed aggression, early maladaptive schemas, and level of trait anger. These factors were examined alongside respondents' life history of aggression. Findings revealed that 61% of respondents reported rehearsal of aggressive scripts between several times a year to several times a day, and the frequency of one's script rehearsal was related to greater past experiences of aggression. With regards to aggressive attitudes, respondents who endorsed beliefs that condoned aggressive behaviour reported greater involvement in past aggressive behaviours. A significant positive relationship was also identified between aggressive script rehearsal and attitudes towards aggression. Similarly, Podubinski et al. (2017) examined the predictors of aggression by investigating associations with aggressive script rehearsal, attitudes towards aggression, and trait anger. In a sample of 200 non-forensic psychiatric inpatients, it was revealed that aggressive script rehearsal and attitudes towards violence were positive predictors of aggressive behaviour. These findings confirm the influence that normative beliefs about aggression have on

aggressive behaviour in a non-forensic sample, further highlighting the importance that these beliefs, and the rehearsal of aggressive scripts have on aggressive behaviour. Although Podubinski et al. (2017) did not directly examine the relationship between aggressive script rehearsal and attitudes towards aggression, given the positive association identified by Gilbert et al. (2013) between these two factors, it can be expected that such a relationship exists. Both these studies highlight the importance of considering attitudes towards aggression when investigating aggressive script rehearsal as there appears to be a particular connection between these two constructs in influencing aggressive behaviour.

To date, the most widely used measure of normative beliefs is the Measures of Criminal Attitudes and Associates (MCAA) developed by Mills et al. (2002). This self-report measure assesses several domains of Violence (e.g., hitting someone who deserves to bit hit is ok), Entitlement (e.g., I deserve to be treated equally, despite with I have done), Anti-social Intent (e.g., I could lie easily, and be convincing), and Attitudes Towards Associates (e.g., most of my friends have criminal records), as well as the degree of relationship that the individual has with criminal associates. The primary purpose of this measure is to assess dimensions of criminal attitudes to determine their relevance to criminal behaviour (Mills et al., 2002). Currently, this measure is most commonly used in forensic settings with incarcerated samples, where it has been found to be a valid measure of criminal attitudes and behaviour (Mills et al., 2002). Bäckström and Björklund (2008) compared the attitudes of individuals with a criminal history (n = 184) with those of a community sample (n = 556) using the MCAA, and results indicate that both samples report attitudes towards criminality where the differences lie in the extent to which they are endorsed. The sample of individuals with a criminal history demonstrated higher attitudes endorsing criminal behaviour. Gender differences were also apparent, with males in the community sample significantly endorsing more attitudes towards antisocial intent and violence, when compared to females in that

sample. Bäckström and Björklund (2008) findings highlight differences between criminal attitudes in forensic and community samples, however, given the limited breadth of research on the MCAA in comparison studies, further research is warranted.

3.2.5 Additional Cognitive Beliefs Implicated in Aggressive Script Rehearsal

In addition to normative beliefs about aggression which have been found to associate strongly with aggressive script rehearsal and subsequent aggressive action, additional frameworks that explore beliefs within a forensic context have been identified. Although limited in empirical research, some focus has been dedicated to exploring the cognitions that reduce an individuals' propensity to act aggressively or engage in criminal behaviour (Paternoster & Bushway, 2009). Paternoster and Bushway (2009) developed a framework to understand why some individuals may desist from crime and the cognitive factors that may play a role in this process. Desistance is recognised as a process by which individuals develop from an 'offender' to non-offender (Bersani & Doherty, 2018). Paternoster and Bushway (2009) emphasise earlier work by Oyserman and Markus (1990) on the conceptualisation of "possible selves", and the way one's imagination of their positive and negative self may play a role in delinquency. Specifically, Oyserman and Markus (1990) found that youth who reported delinquency were more likely to report their percieved possible future selves as representing negative characteristics such as "depressed", "alone" or a "junkie" (Oyserman & Markus, 1990, p. 121). Although Oyserman and Markus (1990) did not identify the long term influence negative self views have on delinquent behaviour, the study did highlight the future self perceptions of individuals who have engaged in delinquent behaviour .

Extending from Oyserman and Markus (1990) and earlier work by Higgins (1987) discrepancy theory, the concept of the 'feared self' has been identified as an important cognitive factor that appears to have a role in establishing negative beliefs about one's

persona and in turn influence desistance (Paternoster & Bushway, 2009). Paternoster and Bushway (2009) suggest that feared self perceptions include imaginations of the self that the individual does not want to become, and that by holding this negative self in mind, it may induce initial motivations towards desisting from crime. Similarly to what is observed in populations with OCD when feared self-beliefs influence interpretations of AITs, within forensic samples, it is proposed that in order to avoid further offending, individuals must engage with their working identities from a criminal to non-offending one, through the use of beliefs centred on feared selves or feared possible identities (Paternoster & Bushway, 2009). It is postulated that the feared self plays a role in influencing perceptions of what the self might be or become, motivating individuals to avoid these feared selves altogether; thus desisting from crime (Paternoster & Bushway, 2009). This theory proposed by Paternoster and Bushway (2009) has received limited empirical research attention and the role feared self-perceptions in aggression and desistance processes is not entirely clear.

3.3 Aggressive Scripts and other Conceptually Relevant Constructs

3.3.1 Fantasy

Early investigations into aggressive thinking consistently referred to engagements in thoughts of a violent or aggressive nature as fantasies (Crabb, 2000; Kenrick & Sheets, 1993). However more recently, the literature has identified differences between aggressive thinking and aggressive fantasies, which aids in the interpretation and implications of such thoughts (Gilbert et al., 2017). Conceptually, fantasies are understood as mental pictures actively created by an individual which combine multiple components into a script (Rokach, 1990). It has been argued that fantasies are not experienced exclusively due to external events or behaviours like aggressive scripts, where it is purported that fantasies provide substitutes and/or preparations for action (Beres, 1960).

However, one's engagement with their fantasy has been described similarly to the processes of general script rehearsal (Beres, 1960). It is proposed that fantasising can be considered akin to script rehearsal; Huesmann and Eron (2013; 1989) argue that regularly rehearsed aggressive scripts can be maintained in one's cognitive repertoire through the process of fantasising, inevitably increasing one's potential to act aggressively. The process of using fantasies as a means of consolidating or elaborating an aggressive script is emphasised by Huesmann (1998). Fantasies may strengthen the connection of the aggressive script in one's mind which further eases the processes of access and retrieval when the script is required – which is elaborated in the GAM by Bushman and Anderson (2002). Gilbert and Daffern (2017) elaborate that fantasising, as a process of mental rehearsal, may help to change or shape the content of aggressive scripts, which may have implications on subsequent aggressive behaviour by influencing either more creative and/or fixed ways of behaving.

Given the term fantasy and aggressive scripts have been used interchangeably in the literature, it has led to some confusion in the nomenclature of these constructs. It is worth noting that a common conception of fantasies, and often aggressive thoughts more generally, is that their subjective experience is a positive one (i.e., particularly those relating to sexual contents; Veale et al., 2009), however limited research has explored the subjective experience of aggressive scripts more generally, particularly in relation to the subjective emotional experience during the script rehearsal. As summarised by Hosie, Simpson, et al. (2022), fantasies are conceptualised as perseverative thinking, which can involve elaboration or rehearsal of an aggressive scripts. Whereas aggressive scripts represent the action or behaviour being considered in the situation at hand. Given that some studies have referred to aggressive thoughts as fantasies (Grisso et al., 2000) and others as aggressive scripts (Hosie

et al., 2014), for the purposes of this thesis the term ‘aggressive scripts’ will be used to denote thoughts about harming another person.

3.3.2 Anger Rumination

Anger rumination is defined as repetitive thoughts individuals have about an anger inducing event which maintains a state of anger arousal (Denson, 2013; Sukhodolsky et al., 2001). Findings confirm a relationship between anger rumination and anger (Bushman, 2002), as well as anger rumination and aggressive behaviour (Peled & Moretti, 2009). Anger rumination can be conceptualised as thoughts about anger that are unintentional and recurrent which occur during or after an anger inducing event (Sukhodolsky et al., 2001). Anger rumination can be measured by the Anger Rumination Scale (ARS; Sukhodolsky et al., 2001), which assesses the tendency to think about anger and its related experiences. Questions on the ARS include thinking about angry mood, thoughts of revenge, recalling anger provoking experiences, and thinking about the antecedents and consequences of anger experiences.

In a cross-sectional study of undergraduate students, Anestis et al. (2009) examined the effect of anger rumination across different forms of aggression: trait physical aggression, trait verbal aggression, hostility and anger. Using the ARS and the Buss-Perry Aggression Questionnaire Subscale, findings confirmed the association between anger rumination and aggression. Specially, anger rumination was found to significantly predict physical aggression, verbal aggression, and hostility even after controlling for covariates including depression, anxiety, impulsive behaviour, and emotional regulation. An unexpected finding was that anger rumination was not significantly related to anger, which is inconsistent with previous research that suggests anger rumination maintains anger arousal and affect (Denson et al., 2012). Anestis et al. (2009) purport that experiencing higher levels of anger may not

always influence anger rumination, and that anger rumination may induce an angry affect but this may not lead to higher levels of anger more generally.

Further, in a sample of incarcerated males (N = 29), Hosie, Simpson, et al. (2022) explored the relationships between anger rumination, aggressive script rehearsal, and aggressive behaviour. Results demonstrated a strong relationship between aggressive script rehearsal and anger rumination, namely the Thoughts of Revenge subscale. Hosie, Simpson, et al. (2022) also identified a moderate relationship between anger rumination and aggressive behaviour. These findings highlight the similarities in phenomenology between aggressive scripts and anger rumination, namely the rehearsal of retaliatory plans of aggression within the context of provocation.

According to the Multiple Systems Model (Denson, 2013), anger rumination appears to differ from aggressive scripts as it does not include ways one will act aggressively, rather it influences or maintains angry affect. Although anger rumination does not include plans to act aggressively, it has been found to maintain anger arousal as well as influence individuals to dwell on past anger experiences, thus increasing ones propensity to act aggressively (Pedersen et al., 2011). Anger rumination has been identified as a dysfunctional emotional regulation process as well as a risk factor for aggressive behaviour (Denson, 2013). Therefore, anger rumination appears to be a relevant construct to the experience of aggression more generally, and therefore will be investigated alongside aggressive scripts in the current thesis.

3.3.3 Aggressive Intrusive Thoughts versus Aggressive Scripts

Of particular interest to this thesis are the features that best differentiate between the experience of AITs and aggressive scripts. The specific features that are best able to differentiate these phenomena have not been reliably investigated, and to date there is no empirical research exploring AITs and aggressive scripts simultaneously. As highlighted

previously, current definitions of AITs, and intrusive thoughts more generally, include the experience of thoughts about harming another person that are frequent, spontaneous, intrusive, disrupt functioning, are associated with distress, and are ego-dystonic to the individual (Moulding, Aardema, et al., 2014a). They are a common symptom of OCD, and due to these aforementioned features, AITs are not associated with acts of aggression, nor is their presence considered a risk factors for aggressive behaviour (Fairbrother et al., 2022; Veale et al., 2009). Definitions of aggressive scripts include any thought or daydream about physically harming another person. Aggressive scripts may also be experienced frequently and spontaneously (Grisso et al., 2000; Patel, 2015; Sheldon & Patel, 2009), and there is research to suggest that aggressive scripts can be experienced as intrusive, distressing, and difficult to control (Patel, 2015). The clear difference between AITs and aggressive scripts appear to be the behavioural outcomes associated, where aggressive scripts have been reliably reported to be associated with a history of aggressive behaviour (Gilbert et al., 2017), and used as a means of predicted one's propensity to act aggressively (Hosie et al., 2021)

Research in aggressive script rehearsal is commonly conducted with samples of individuals who have a history of violent offences, and these studies provide evidence for the prevalence of these thoughts and the relationship these have with violent behaviour (Gilbert et al., 2013; Moeller et al., 2017). AITs on the other hand are a common symptom of OCD, and their key feature is the frequent experience of unwanted thoughts is associated with significant distress, and the contents of the thought are experienced as ego-dystonic to the individual (Moulding, Aardema, et al., 2014a) Similar to studies AITs, aggressive scripts have also been identified in non-clinical samples, however the breadth of research is limited.

The few studies that have explored aggressive scripts in non-clinical samples confirm that such thoughts are a common phenomenon that occur outside forensic samples (Grisso et al., 2000; Nagtegaal et al., 2006). In a development and validation study of the SIV, Grisso et

al. (2000) explored the prevalence of violent thoughts in a comparison study of students (n = 519) and individuals hospitalised for a mental illness (n = 1,136). It was found that several individuals in both groups reported the experience of violent thoughts, where the prevalence of such thoughts were found to be higher in the clinical sample (i.e., clinical sample = 30% vs. students = 14.5%). Similarly, Nagtegaal et al. (2006) investigated the frequency to which aggressive scripts are experienced in a non-clinical sample of university students. Using the SIV(Grisso et al., 2000) it was found that approximately 60% (N = 72) of students reported that at some point in their life, they experienced a thought about physically hurting or injuring another person. Both Nagtegaal et al. (2006) and Grisso et al.'s (2000) studies provide evidence for the occurence of aggressive scripts in the general population. When considering the implications of aggressive script rehearsal, it is important to also consider the presence of other factors including violence supportive beliefs and a history of aggressive behaviour, which in combination predict the likelihood of aggressive behaviours (Daff et al., 2015; Gilbert et al., 2013). These studies on aggressive scripts also raise the question as to whether the aggressive thoughts reported in Nagtegaal et al. (2006) and Grisso et al. (2000) are indeed aggressive scripts or could they be classified as AITs. Given the SIV does not enquire whether respondents have experienced their aggressive scripts as intrusive or distressing, it is unclear whether aggressive scripts are indeed different in phenomenology to AITs. While there has been anecdotal assumptions that aggressive scripts are distinct from AITs, these assumptions may have led to the creation of different measurement tools that suggest differences these constructs. Further, there have not been any empirical studies comparing whether AITs and aggressive scripts differ in terms of phenomenology based on the experience of certain features (e.g., intrusiveness, distress) .

In order to understand the process through which AITs and aggressive scripts influence differing outcomes for an individual, exploring features of maladaptive belief

systems (Radomsky et al., 2014; Rowa & Purdon, 2003; Sukhodolsky & Ruchkin, 2004) and life-time experiences of aggression (Coccaro et al., 1997; Gilbert et al., 2013) may prove useful in understanding this development. Specifically, utilising features from the established research field of AITs and intrusive thoughts in OCD, exploring whether aggressive script rehearsal are associated with features such as intrusiveness, spontaneity, ego-dystonicity, ego-syntonicity, thought control, and the emotional valence may prove important in differentiating between AITs and aggressive scripts. Currently the distinction between AITs and aggressive scripts is not clear, and it is difficult to ascertain whether the subjective experience of either cognitive processes share similar components, or whether they are in fact separate constructs.

3.4 Treatment for Aggressive Script Rehearsal

While the scope of the thesis was to elucidate the phenomena of AITs and aggressive scripts, a treatment section for aggressive script rehearsal has been included to provide context for some of the factors relevant to aggressive script rehearsal that have become targets of intervention. While this treatment section explores the broad intervention options available for aggressive scripts, this section aims to contextualise some of the implications of aggressive script rehearsal addressed in chapter 9 of the thesis.

Empirical research examining the effectiveness of specific treatment interventions for aggressive scripts is scarce. Extant literature exists for treatment guidelines and interventions for conceptually related constructs such as rumination, fantasies, and intrusive thoughts (Clark, 2004; Hvenegaard et al., 2015), and the application of these treatment principles for aggressive scripts has been recommended (Gilbert & Daffern, 2017). For example, rumination-focused cognitive behavioural therapy aims to modify the process of thinking through a combination of behavioural activation, and analysis of the behavioural function of rumination (Hvenegaard et al., 2015). As explored in a previous chapter of this thesis,

intrusive thought treatment focuses on challenging and modifying faulty appraisals and maladaptive beliefs, and this can specifically be achieved through exposure and response prevention strategies (Clark, 2004). Whether components of these treatment interventions that come from conceptually related constructs to aggressive scripts are applicable to treatment of aggressive script rehearsal requires exploration. Research on the effectiveness of treatment programs designed for violent offending suggests that the impact these programs have on violent recidivism is mild (Papalia et al., 2019). Papalia et al.'s (2019) meta-analytical review suggests that the implementation of programs that offer multimodal treatments have the strongest treatment efficacy on violent recidivism.

In a sample of incarcerated adults males, Morrison (2022) compared the effectiveness of a novel group-based aggressive script rehearsal treatment program, developed specifically for the study, with an emotional regulation treatment program. Findings from the study revealed that although there was no reduction in the frequency of aggressive script rehearsal overtime across either treatment programs (i.e., at 46 days, and at 104 days post-treatment), Morrison (2022) found a significant reduction in self-reported aggressive behaviour related to aggressive script rehearsal, as well as reduced emotion regulation difficulties. Given Morrison (2022) was one of the first studies to address aggressive script rehearsal in a treatment program, further research into the development and implementation of interventions for aggressive scripts is required.

3.5 Summary

This chapter summarised the construct of aggressive scripts including its phenomenology and epidemiology. This chapter also considered several social cognitive models of aggression, namely the GAM, Script Theory, and the Multiple Systems which offer interpretations of script rehearsal and subsequent aggressive behaviour. Distinctions between related constructs of aggressive scripts were also explored, and issues related to

nomenclature were identified. This thesis is particularly interested in aggressive scripts, and although distinctions have been made with related constructs, these constructs will be revisited in further chapters as they are relevant to investigations of aggression more generally. This chapter also explored some overlap between the construct of AITs and aggressive scripts, including how they are both commonly reported by the general population and concern thoughts about harming or injuring another person. This chapter concluded with a section on the current treatment options available for aggressive script rehearsal.

CHAPTER 4 - A CRITICAL COMPARISON OF AGGRESSIVE INTRUSIVE THOUGHTS IN OBSESSIVE COMPULSIVE DISORDER AND AGGRESSIVE SCRIPTS IN OFFENDER POPULATIONS

4.1 Preamble for Critical Review Paper

The previous chapters have presented current understandings of AITs and aggressive script rehearsal from two distinct lines of research. In order to further examine the potential similarities and differences between these two phenomena, the following chapter attempts to integrate literature from AITs and aggressive script rehearsal research and critically review the features of these constructs. This chapter aims to provide a critique of the literature whilst comparing well known features of intrusive thought phenomenology from OCD research with aggressive script rehearsal. Prior research has established features pertinent to intrusive thoughts in OCD, however, the features of aggressive script rehearsal requires further empirical investigations. It was therefore accepted that intrusive thought features would be compared and critical reviewed with aggressive script rehearsal.

The critical review addresses the first thesis aim, to explore and establish the phenomenology of AITs and aggressive scripts. The critical review is one of its first in concurrently examining AITs and aggressive script rehearsal, and comparing differential features of these phenomena. The following chapter has been submitted to a journal and is awaiting review. It is therefore presented in its publication format.

4.2 Author Indication Form for Empirical Research Paper One

Swinburne Research

Authorship Indication Form

For PhD by Publication candidates

NOTE

This Authorship Indication form is a statement detailing the percentage of the contribution of each author in each published '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 published paper to be included in your thesis.

DECLARATION

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

A critical comparison of Aggressive Intrusive Thoughts in Obsessive Compulsive Disorder and Aggressive Scripts in Offender Populations

First Author

Name: Stephanie Fernandez Signature:

Percentage of contribution: 85 % Date: 20 / 02 / 2023

Brief description of contribution to the 'paper' and your central responsibilities/role on project:

Reviewing and synthesizing literature, preparation of manuscript

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Supervision on literature search and focus, reviewed and edited manuscript drafts

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Date: 20 / 02 / 2023

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

Authorship Indication Form

A Critical Comparison of Aggressive Intrusive Thoughts in Obsessive Compulsive Disorder and Aggressive Scripts in Offender Populations

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Acknowledgements

Declarations of interest: none

Declaration: This manuscript has not been published elsewhere and has not been submitted simultaneously for publication elsewhere.

Abstract

Thoughts about harming or injuring another person are a common phenomenon and can be understood through two different constructs: aggressive intrusive thoughts or aggressive scripts. The outcomes associated with these thoughts differ significantly depending on the population group they are investigated in. Within Obsessive Compulsive Disorder, aggressive intrusive thoughts are not associated with acts of aggression, rather they are experienced as significantly distressing to the individual and may influence a range of obsessive-compulsive symptoms to reduce the perceived consequences of the intrusive thought. In offender populations, aggressive scripts are associated with aggressive behaviours and inform examinations of risk assessment and intervention. Whether similarities exist between these phenomena remains unclear as these two constructs have not been compared, conceptually or empirically. The current review explores whether these two phenomena share similarities with regards to well established features from intrusive thought research, including frequency, intrusiveness, influence of maladaptive appraisals, associated emotional experiences, and thought control strategies. The relationship these features have with aggressive scripts is explore may prove beneficial for not only differentiating between these two phenomena but for informing risk assessment and intervention for those who experience them.

Keywords: aggressive intrusive thoughts, aggressive scripts, obsessive compulsive disorder, aggression, cognition

Thoughts about harming or injuring another person are commonly experienced by the general population (Kenrick & Sheets, 1993; Rowa & Purdon, 2003). In most instances these thoughts do not forecast subsequent aggressive action and in some cases, individuals may go to extraordinary lengths to prevent themselves from acting aggressively and causing harm to others (Veale et al., 2009). However, aggressive thoughts are common in violent offenders and associations between aggressive thoughts and violence has been reliably reported in offender populations (Daff et al., 2015; Gilbert et al., 2013). Furthermore, antisocial cognitions are amongst the most important risk factor for criminal behaviours (Andrews et al., 2011). Currently, while the literature considers these to be separable phenomena, the actual differences have not been subject to systematic empirical review.

Two understudied constructs that have been used in the literature to describe aggressive thought experiences are Aggressive Intrusive Thoughts (AITs) and Aggressive Scripts. These two phenomena share similarities in terms of thought content; however, they may be associated with very different behavioural consequences. AITs are a common in Obsessive Compulsive Disorder (OCD), in which repetitive and unwanted thoughts about causing harm or injury to another person lead to high levels of distress and worry (Rachman, 1997). It is the general consensus that the experience of AITs within the context of OCD are not associated with aggressive behaviour (Veale et al., 2009). Rather individuals who experience these thoughts within the context of OCD resort to compulsive behaviours that aim to reduce negative affect and the perceived consequences associated with the thought about harming a loved one or another person (Rachman, 1997). Although the experience of anger states has been reported in individuals with OCD (Moscovitch et al., 2008; Radomsky et al., 2007), the experience of anger is attributed to the high level of distress associated with the thought, rather than reflecting tendencies toward aggressive behaviour (Whiteside & Abramowitz, 2005). The level of distress, ego-dystonic nature of AITs (i.e., inconsistent with

one's beliefs and value system; Purdon et al., 2007), and compulsive behaviours aimed at reducing perceived negative consequences have been argued to relate to the low risk that exists for an individual with OCD to act on these thoughts (Veale et al., 2009). Aggressive scripts by contrast, are conceptualised as thoughts about acting aggressively toward another person. They are mental templates for aggressive behaviour which are created from situations where aggression or violence is observed or displayed (Huesmann & Eron, 1984). Once formed, aggressive scripts are maintained through rehearsal, which is recognised as ones engagement with their aggressive thoughts (Huesmann & Eron, 1984). Aggressive script rehearsal has been shown to relate to aggressive behaviour (Gilbert et al., 2013).

AITs and aggressive scripts share similarities in terms of the content of the thought; however, there is a general acceptance that the experience of these two types of thoughts result in different behavioural and emotional outcomes for the individuals who experience them (Daff et al., 2015; Veale et al., 2009). There is however limited understanding of the key distinguishing features of these phenomena both in research and in clinical applications, including how these types of thought implicate clinician rated risk assessments in those who experience them (Veale et al., 2009). This may be due to the disparate lines of research which have explored these two constructs. Our understandings of AITs is grounded in OCD research, which has identified key characteristics that distinguish AITs from other thought phenomena. These include the unwanted, intrusive, frequent, distressing, and ego-dystonic (i.e., inconsistent with ones' belief system) nature of AITs (Moulding, Aardema, et al., 2014a). It is argued that the phenomenology of AITs may provide protective qualities against overt acts of aggression (Veale et al., 2009). The features of unwantedness, intrusiveness, ego-dystonicity, and distress have received limited attention in the aggressive scripts' literature. Whether aggressive scripts share these same qualities as AITs is unclear. There is little research exploring script rehearsal amongst violent offenders and it is unclear whether,

in this population, these experiences have the same features as AITs that are experienced by people with OCD (i.e., that they are intrusive, unwanted, ego-dystonic).

To the best of the authors' knowledge, to date, no comparisons have been made between AITs and aggressive scripts with regards to these features and it is unknown whether similarities or differences exist in the phenomenology of these thoughts. Direct comparisons between AITs and aggressive scripts, including the similarities and distinguishing features, may facilitate the identification of potential protective or risk factors for aggressive behaviours. This may also have clinical implications, specifically in the assessment of risk for aggressive behaviour, where distinguishing between AITs or aggressive scripts is vital in the implementation of risk assessments but also in the treatment of the cognitions. For example, in the Historical Clinical and Risk Management-20 ^{v3}, a structured clinical judgement instrument used for violence risk assessment, one important risk item relates to aggressive thinking. It is unclear whether all aggressive thoughts would be regarded similarly in this tool (i.e., AITs and aggressive scripts) or if thoughts that are intrusive, unwanted, distressing, ego-dystonic would not be associated with risk for violence. Future research may be guided by this exploration through the identification of how the experience of aggressive thoughts may influence differences in aggressive behaviours.

The goal of this literature review is to critically evaluate empirical findings regarding the characteristics of AITs and aggressive scripts, while identifying whether these characteristics are comparable across the two phenomena. The review begins with a conceptual overview of AITs and aggressive scripts. The review is then broken down into sections that outline specific features of AITs which are then compared to current understanding and measurement of aggressive scripts. This is due to the more developed nature of OCD literature, and the extensive exploration of intrusive thought characteristics.

Each section explores the existing empirical literature relating to the given feature, from non-clinical, OCD, and forensic research domains.

A targeted systematic review was deemed inappropriate due to the nature of the review and the lack of specific literature in the area. However, to inform this critical review, we used Boolean search methods and keywords to inform the search strategy (i.e., aggressive intrusions, aggressive obsessions, aggressive thoughts, repugnant thoughts, unwanted thoughts, aggressive scripts, violent thoughts, intrusions). In July 2021, the following databases were searched using the key words: CINAHL via EBSCOhost, MEDLINE, and PsychINFO. References from articles found via these searches were also used. Papers were included in the review if they contained the aforementioned keywords. Meta-analyses, dissertations, and reviews were not excluded.

4.3 Conceptual Overview

4.3.1 Aggressive Intrusive Thoughts

AITs are thoughts about harming or injuring another person and are considered personally repugnant, unwanted and are highly distressing (e.g., thoughts about stabbing a family member or partner; Moulding, Aardema, et al., 2014a). They are a common feature of OCD where approximately 45% of individuals with OCD have been found to report thoughts of aggression (N = 292; Pinto et al., 2008a), although rates vary depending on the sample (e.g., ranging from 13% to 45%; Brakoulias et al., 2013; Pinto et al., 2008a; Rowa et al., 2005). The general population have also been found to experience AITs; for example, Bouvard et al. (2017) found no difference between individuals with OCD and non-clinical participants in the prevalence of their aggressive intrusions which is consistent with prior findings that have compared these two population groups (Garcia-Soriano et al., 2011). When considering symptom dimensions that have been identified for OCD, AITs have generally been classified under the symptom dimension of repugnant thoughts, also known as

'unwanted thoughts' (Bloch et al., 2008; Brakoulias et al., 2013). In addition to aggressive thoughts, the repugnant thoughts dimension of OCD also includes sexual and religious obsessions. The key feature of this dimensions is the unacceptable and forbidden themes that the content of the thoughts involve, where these thoughts are experienced as ego-dystonic (i.e., inconsistent with ones beliefs) and contradict one's sense of self (Moulding, Aardema, et al., 2014b). As the presence of AITs is perceived as abhorrent to the individual, it often influences compulsive behaviours or neutralising strategies that help to deal with the anxiety and fear associated with the thought, to prevent the harm associated with the thought, or to reassure oneself that the negative content is not representative of self (Moulding, Aardema, et al., 2014b). For example, a mother or father who experience recurrent and unwanted thoughts about harming their infant child may utilise overt compulsive strategies including constant reassurance seeking, or avoidance of their child (Fairbrother & Woody, 2008). In these instances, seeking reassurance or avoiding the child reduces the distress and anxiety associated with the aggressive intrusion as well as preventing the perceived harm associated with the intrusion (Brakoulias et al., 2013).

Emergent from the literature and for the purposes of this review, AITs are operationalised as thoughts about harming or injuring another person that are experienced as unwanted, intrusive, spontaneous, ego-dystonic (i.e., inconsistent with one's sense of self), and distressing, and are associated with compulsive or neutralising behaviours. AITs are distinguished from thoughts that are classified as rumination or worry as such phenomena are generally considered to be ego-syntonic. As Clark (2005) has highlighted, the appraisal process involved with AITs often concerns the implications these thoughts have for one's personality and responsibility over the actions; rather than the mere concern that these thoughts may become true - as is seen with worrisome thoughts.

4.3.2 Aggressive Scripts

Aggressive scripts are conceptualised as daydreams or thoughts about physically harming or injuring another person (Grisso et al., 2000). They are generally thought to be created through the exposure to aggression; most commonly in early childhood experiences (Huesmann & Eron, 1984). Aggressive scripts include both procedural knowledge (i.e., how aggressive behaviour is performed) and declarative knowledge (i.e., factual information regarding aggressive events), which are used as guides for aggressive behaviour at a later stage (Huesmann, 1998). Once created, an aggressive script is stored in memory and retained through mental rehearsal such as thinking, daydream, and fantasising (Huesmann & Eron, 1989). It is this mental rehearsal process that is commonly understood as someone experiencing thoughts (in the form of an aggressive script) about harming another person. The more these aggressive scripts are rehearsed, the stronger the connection of these scripts with other aggressive-related constructs (e.g., condoning beliefs about violence; Huesmann, 1998); this in turn increases the likelihood of subsequent aggressive action.

Several attempts have been made to differentiate aggressive scripts from aggressive fantasies (Gilbert & Daffern, 2017). Fantasies have been conceptualised as an internally generated thought process where an individual combines multiple symbols into a script, which is then used as a substitute or preparation for behaviour (Rokach, 1990). Both aggressive scripts and aggressive fantasies are said to play a role in the preparation and guidance of aggressive behaviour (Gilbert & Daffern, 2017), and there is empirical evidence to suggest that they both are influenced by the modelling of aggression, past experiences of aggression, and maladaptive beliefs condoning aggression (see review by Gilbert & Daffern, 2017). However, it has been noted that the literature on aggressive scripts and fantasies has been confused by the tendency to use the terms ‘script rehearsal’ and ‘fantasy’ in an interchangeable way, as well as the different methods used to measure these constructs

(Gilbert & Daffern, 2017). Given that research has used general definitions for both constructs (e.g., thoughts about harming another person), this has made it especially difficult when reviewing the literature to differentiate between the two constructs. Regardless of this, implicit in the discussion of both aggressive scripts and fantasies is the individual's deliberate engagement with these thoughts. However, limited empirical evidence exists confirming this proposition (Patel, 2015) . Given this, the current review has operationalised aggressive scripts as any thoughts about harming or injuring another person that appear to influence aggressive states or aggressive behaviour.

An individual's attitudes towards, and beliefs about aggression have also been found to play a role in how they evaluates their own behaviour and that of others, as well as helping to normalise the experience of aggressive scripts (Huesmann & Guerra, 1997). These normative beliefs about aggression include cognitions such as 'someone who makes me angry deserves to be hit' and 'it's ok to hit someone who insults you' (Mills et al., 2002, p. 249). These types of maladaptive beliefs are commonly measured in offender samples who present with aggressive histories and antisocial behaviour (Gendreau et al., 1996; Mills et al., 2002). Research by Gilbert et al. (2013) and Kelty et al. (2011) demonstrate evidence of the relationship between attitudes towards aggression and script rehearsal, where individuals who endorse beliefs that condone aggressive are more likely to rehearse aggressive scripts. Understanding this relationship is essential in identifying the types of dysfunctional beliefs that may exacerbate or maintain aggressive script rehearsal, and in turn influence aggressive action. Dysfunctional belief patterns may prove an important target point for treatment interventions in offender samples, particularly those with a history of aggressive script rehearsal and aggressive behaviours.

The following sections compare aggressive scripts to well established characteristics of intrusive thoughts. Each section will comprise of a specific feature, or group of features,

pertinent to intrusive thoughts, which are then compared to the current understandings and measurements of aggressive scripts. Identifying the similarities and differences between these phenomena may have implications for the assessment and treatment of these constructs in a range of settings. The research reviewed in these sections derive from non-clinical, clinical OCD, and forensic research domains.

4.4 Features of Intrusive Thoughts: Comparisons with Aggressive Scripts

4.4.1 Unwanted, Intrusive and Spontaneous

Aggressive Intrusive Thoughts

Early conceptualisations of intrusive thoughts by Rachman and colleagues (Rachman, 1978, Rachman & Hodgson, 1978) defined intrusive thoughts as thoughts which are unacceptable and experienced as unwanted. The unacceptable and unwanted quality of the thoughts pertain to the content of the thought (e.g., aggression/violence, sexual themes), as well as to how the thought enters the mind without encouragement (Clark & Purdon, 1995; Rachman, 1981). Both Klinger (1996) and Rachman (1981) speak to the unintended and spontaneous nature of intrusive thoughts which often results in difficulties with thought suppression and negative affect due to the emotional response associated with the content and unwilful appearance of the thoughts in mind.

Definitions of intrusive thoughts emphasise the unwanted and intrusive nature of these thoughts, which become relevant when distinguishing them from normal thought experiences. The concept of intrusiveness has not been specifically defined, nor does a specific measurement exists which delineates if a thought is ‘intrusive’ or not. Rather several factors have been collated and investigated together to uncover whether thoughts can be deemed as ‘intrusive’. As elucidated by Clark and Purdon (1995), early measurements of unwanted intrusive thoughts primarily emphasised the way intrusive thoughts were experienced as ‘intrusive’ through understanding process characteristics (e.g., spontaneity,

entering the mind unwillingly). For individuals to discern whether their intrusive thoughts are indeed classified as "unwanted intrusive thoughts", descriptions of what intrusive thoughts consist of and the different ways they may be experienced (e.g., as thoughts, images, or impulses) are provided to ensure individuals can identify this phenomenon consciously (Clark & Purdon, 1995; Pascual-Vera et al., 2019). For example, when determining whether an individual is experiencing intrusive thoughts with aggressive contents, a description of what the intrusive thought may look like is provided (e.g., a thought about harming or injuring another person), and the individual is made aware that the thought appears suddenly in mind, and therefore is considered unwanted and upsetting or unpleasant (Pascual-Vera et al., 2019). Rachman (1981) highlights that any thought, image or impulse can be considered an unwanted intrusive experience, as long as it is associated with distress, experienced recurrently, and feels ego-dystonic to the individual (i.e., inconsistent with one's beliefs). Rachman (1981) also suggested that the individual experiences difficulty with sustaining ongoing concentration or activity due to the presence of the intrusive thought, and the thought is difficult to control. This further reiterates the importance of considering several factors together when determining whether a thought is 'intrusive'. This process of determining whether a thought is intrusive assumes that the individual is able to consciously identify a thought and uses the provided definitions of 'intrusive thoughts' in distinguishing them from other normal thought experiences.

The experience of intrusiveness was also highlighted by O'Neill et al. (2009), who explored intrusive thoughts in inmates (n = 79) and students (n = 86). A semi-structured interview for intrusive thoughts was utilised where participants were asked to report "any readily identifiable intrusive thoughts or impulses" they experienced as well as the frequency, spontaneity, dismissability and distress levels associated with the thoughts (O'Neill et al., 2009, p. 149). Findings from this study showed that inmates reported significantly less

intrusive thoughts than the student sample, and inmates with higher levels of psychopathic traits reported significantly less intrusive thoughts overall. Differences in content of the intrusive thoughts were not directly compared across groups, however as anticipated, the inmates' intrusions were exclusively aggression related. Majority of students (64.9%) and inmates (61.1%) reported being able to easily dismiss their intrusive thought, and no significant differences were observed when comparing distress of thoughts across the two samples. However, it is worth noting that for the student sample, as intrusive thoughts were experienced more frequently, distress levels increased – this was not observed in the inmate sample. A strength of the study is that O'Neill et al. (2009) provided participants with a 10-minute interactive introduction about the concept of intrusive thoughts, which ensured participants understood what constituted an intrusive thought. The findings re-iterate how differences in intrusive thoughts are observed across samples, particularly the impact that underlying factors (e.g., psychopathic traits) have on the way the intrusive thoughts are experienced. These findings suggest the role that one's subjective account, and experience of several factors (e.g., level of distress, spontaneity) have on what is considered intrusive, rather than intrusiveness measured as a single construct.

The spontaneous or non-volitional aspect of intrusive thoughts has been incorporated into definitions of this phenomena, namely by Klinger (1990) and Rachman (1981) which emphasise that the presence of these thoughts occur without an intended purpose. Even though there are reports of individuals experiencing intrusive thoughts as a result of evoking stimuli, for example a thought of stabbing a loved one after seeing a knife, the connection between the evoking stimuli and the AIT is likely to reflect an illogical and unrealistic situation for the individual (O'Connor et al., 2009). This speaks to the difficulty of understanding the connection between environmental stimuli that may trigger the occurrence of intrusive thoughts, as this process may be highly dependent on the subjective state of the

individual and the symbolism that is assigned to external precipitants of the intrusive thoughts. For example, whether individuals are influenced by external triggers (e.g., a knife or sharp object) is dependent on how salient these triggers are to the person but also how they are interpreted and appraised by the individual (e.g., 'I must be careful around a knife as I could harm someone'). The spontaneous quality of intrusive thoughts emphasises that such thought experiences are not prompted by the person, nor are they actively engaged with.

Unwanted, intrusive, and spontaneous

Aggressive Scripts

Although the content of an aggressive script is similar to AITs (i.e., thoughts about harming or injuring another person), whether the script is experienced 'intrusive' is currently unclear. The concept of intrusiveness has not been directly examined with respect to aggressive scripts, and thus little is known about how offenders may experience thoughts that may be classified as 'intrusive'.

In a qualitative study of violent offenders which examined the function and features of aggressive scripts and violent fantasies, Patel (2015) found that several respondents identified that their experience of an aggressive script was intrusive. This was identified by the respondents' descriptions of their 'disturbing, unwanted and unpleasant experiences' that were followed by suppression or distraction strategies (Patel, 2015, p. 161). Respondents' aggressive script experiences included some similar characteristics to AITs including that they were: disturbing, unwanted, and unpleasant; however, some features still remain unclear. These include whether the aggressive scripts were experienced recurrently, spontaneously, as distressing, and were experienced as ego-dystonic. These findings from Patel (2015) do argue against a potential misconception that violent thoughts are experienced pleasantly by forensic samples (Veale et al., 2009), as Patel (2015) identified that the presence of an aggressive script was sometimes described by offenders as unwanted and unpleasant. Patel's (2015)

study is one of the first to show an association between aggressive scripts and intrusiveness. However, as noted by Patel (2015), it is currently unclear whether offenders did, in fact, experience intrusive thoughts similar to those described in OCD literature, as respondents were not provided with a description of what an intrusive thought consists of (e.g., a thought that suddenly appear in our minds, interrupts what we are doing, is difficult to control, is upsetting, unpleasant, and disturbing) – which has proved to be important in measuring and characterising this phenomena (Clark & Purdon, 1995; Pascual-Vera et al., 2019). It is therefore difficult to disentangle whether (2015) sample of offenders experienced aggressive scripts as 'intrusive', akin to what is described with intrusive thought phenomena in OCD, or if they experienced their aggressive scripts as phenomena reflecting other cognitive processes (e.g., intrusive memories in PTSD or rumination).

Whether aggressive scripts enter the mind spontaneously or whether they are summoned into the mind deliberately has received some attention in the forensic psychology literature. While limited, there has been some empirical research that suggests aggressive script rehearsal may be experienced spontaneously. Sheldon and Patel (2009) conducted qualitative interviews with 25 male patients with violent convictions, who had been admitted to a high security forensic hospital in the United Kingdom. Sixteen of the 25 assessed offenders identified an aggressive script, and thematic analyses identified some offenders experienced them as spontaneous, where others described their rehearsal of aggressive scripts as deliberately self-generated. A limitation of these findings was that offenders did not explicitly report their violent thoughts as spontaneous, rather inferences were made by the authors in the thematic analyses of the findings. The deliberate generation of violent thoughts that were reported by offenders presents as a stark contrast to what is commonly seen within OCD. Nevertheless, these findings highlight how aggressive scripts can be experienced both

spontaneously and deliberately self-generated, but whether these features influence differences in behavioural outcomes remains unclear.

4.4.2 Frequent, recurrent and not easily dismissed

Aggressive Intrusive Thoughts

The frequency of AITs has been investigated in several studies of OCD (Belloch et al., 2004; Clark & Purdon, 1995; Purdon & Clark, 2001), where it has been found that individuals with OCD experience their intrusive thoughts more frequently than non-clinical subjects. Rachman and De Silva's (1978) seminal paper on the differences between abnormal and normal obsessions compared the experiences of intrusive thoughts between a clinical sample of obsessional patients and a non-clinical sample of undergraduate, postgraduate, and professional individuals. Results from a clinical structured interview with respondents found that intrusive thoughts experienced by the individuals with OCD lasted longer in one's mind and appeared more frequently than intrusive thoughts in the non-clinical sample. These findings are consistent with cognitive models of OCD, where despite intrusive thoughts occurring in the general population (Radomsky et al., 2014), the implications these thoughts have on an individual's mood is dependent on the way the thought is appraised (Salkovskis, 1985). It is this appraisal process that has been found to influence the frequency with which individuals experience intrusive thoughts, as well as the likelihood of them recurring and persisting (Moulding, Coles, et al., 2014; Salkovskis, 1985).

The frequency of AITs specifically has received limited attention in the literature where inconsistencies currently exist regarding how often individuals may experience intrusive thoughts about harming or injuring another person. This is due to the different measures used across the literature to examine AITs. Investigations of the frequency of AITs have found that approximately 75% of students (N=64) reported ever experiencing an intrusive thought related to harm, aggression, or sexual impulses (Rowa & Purdon, 2003). In

contrast, Radomsky et al. (2014) found that students across 13 different countries (N = 777) endorsed AITs far less frequently than other intrusive thought contents (e.g., doubts). This discrepancy in frequency of AITs speaks to the difficulty in understanding not only how common these thoughts are in the general population, but also at a cross-cultural and individual level (i.e., how often individual's experience these thoughts on a day-to-day basis).

In studies of AITs, DeLapp et al. (2018) found that in a sample of inmates (*n* = 78) and college students (*n* = 103), the frequency of AITs did not differ across groups, although they did not provide detail regarding how frequent these experiences were for respondents. This finding aligns with the idea that intrusive thoughts are a universal experience (Purdon & Clark, 1994b), however they are inconsistent with O'Neill et al. (2009) who found inmates endorsed intrusive thoughts significantly less frequently than students. DeLapp et al. (2018) suggests that they discrepancy with their results are due to their use of a novel and more sensitive measure of AITs that was developed for the study which provided respondents with a list of AITs across a range of aggressive content themes. This is seen in developed measures of intrusive thoughts such as the Questionnaire of Unpleasant Intrusive Thoughts which provides respondents with detail on the type and form of intrusive thought being explored (Pascual-Vera et al., 2019). This suggests that future research should use AIT measures that comprehensively define and provide respondents with information regarding their key characteristics (e.g., intrusiveness, unwanted, spontaneous). It is anticipated that this process will allow for a more accurate identification of the AIT phenomena.

Frequent, recurrent, and not easily dismissed

Aggressive Scripts

The forensic literature has extensively studied the impact that frequent thoughts about harming or injuring another person have on an individual, particularly the relationship with aggressive behaviours (Grisso et al., 2000). Several studies have explored the frequency in

which aggressive scripts occur in the general population (Grisso et al., 2000; Kenrick & Sheets, 1993), but limited research exists examining how frequently these scripts are experienced at an individual level. Kenrick and Sheets (1993) investigated the duration that aggressive scripts remain in one's mind, finding that males reported thoughts of harming or injuring another person lasted longer in their mind (i.e., a few minutes) than did females, who reported their aggressive script as fleeting and lasting only a few seconds. Gender differences in the frequency of aggressive scripts was also explored by Auvinen-Lintunen et al. (2015) in a university student sample, where 28% of males and 15% of females (N = 617) reported experiencing a thought about harming/killing someone in the past week, while the majority of the sample reported no experiences of aggressive thoughts in the past 2 months.

The relevance of aggressive scripts to aggressive behaviours is said to be influenced by the frequency with which these scripts are rehearsed in one's mind. Specifically, Grisso et al. (2000) found that hospitalised forensic patients who reported experiencing recent aggressive scripts were more likely to perpetrate violence after discharge. This finding is consistent with current understandings of script rehearsal where ongoing engagement in thoughts of harming others is purported to strengthen and/or maintain the aggressive tendencies in a person's repertoire (Huesmann, 1988). These conceptualisations of script rehearsal demonstrate how the feature of frequency plays a significant role in the development of aggressive behaviour, where the frequency of aggressive scripts appears to condition an individual towards the normalisation of aggressive or violent behaviours. This is in stark contrast to what is seen with aggressive intrusive thought (AITs) phenomenology, where the frequency of AITs is not believed to see an individual's propensity for violence or aggressive increase (Veale et al., 2009).

4.3.3 Distressing versus pleasant subjective experiences

Aggressive Intrusive Thoughts

The subjective experience associated with intrusive thoughts has been extensively investigated in the OCD literature. One feature that distinguishes normal intrusions, which are those commonly experienced by the general population, from clinical obsession in OCD is the extent to which the intrusion is associated with distress or discomfort (Rachman & de Silva, 1978). The concept of distress, as it is understood in OCD, appears to relate to thoughts containing unpleasant or disturbing contents, as well as the personal meaning individuals derive from the thought experience (Belloch et al., 2004). For example, a person who has thoughts of harming others may believe these thoughts signify that there is a bad, immoral or dangerous hidden aspect of their persona, and thus contribute to a distressed affect (Aardema et al., 2017; Ferrier & Brewin, 2005).

Why some thoughts are deemed more upsetting or distressing than others has been investigated within relevant literature, specifically how thoughts classified under the domain of repugnant/unacceptable thoughts are associated with distress (Rowa et al., 2005). Rowa et al. (2005) investigated why certain intrusive thoughts are experienced as upsetting to individuals with OCD (N = 28). It was found that 43% of the sample identified their most upsetting intrusion to include content relating to aggressive, religious, or sexual themes, and that the occurrence of these intrusions were related to an increase in distress. Participants also appraised these intrusions as indicating that they needed to exert control over their thoughts, as well as believing the presence of the thought in mind signified importance and thus should be attended to (Rowa et al., 2005). Similar conclusions were also found in a three-part study conducted by Lee and Kwon (2003) who compared the differences in subjective experience between repugnant thoughts (*autogenous* obsessions) and non-repugnant intrusive thoughts (*reactive* obsessions). It was found that autogenous thoughts were rated as being more disturbing and they were associated with greater feelings of unacceptability and guilt. Lee and Kwon's (2003) measurement of subjective experience did not ask participants about their

levels of distress associated with their own repugnant thoughts, which therefore creates difficulty in comparing similar studies that have operationalised distress measurement. Additionally, Lee and Kwon (2003) did not measure the subjective experience of specific autogenous thoughts (e.g., aggressive/harm intrusive thoughts), but rather a cluster of repugnant obsessions measured collectively. Measuring repugnant obsessions collectively does not allow for specific associations to be made between aggressive intrusive thoughts and subjective experiences. It is therefore unknow whether respondents in Lee and Kwon's (2003) study felt guilty after noticing their thoughts of harming others, or whether guilt was related to thoughts of other content themes (e.g., sexual or immoral thoughts). Being able to differentiate between the level of distress across different intrusive thought contents will allow for better understandings of how different content themes may implicate one's subjective experience.

While there has been much literature on intrusive thoughts and their associated subjective experiences, literature that has specifically focused on aggressive intrusions and their impact on one's emotional experience is limited. This trend is also observed in forensic psychology research, where several studies have overlooked the emotional reaction that people have to their thoughts of harming or injuring others. The assumption that aggressive thoughts reported by forensic samples are associated with positive emotional experience requires further scrutiny and validation as limited empirical evidence exists confirming this presumption. More recently, DeLapp et al. (2018) explored the association between distress and AITs in a non-clinical (n = 103) and violent incarcerated sample (n = 78). This study indicated that there were no differences in distress levels between the two samples, where increases in distress were observed when the frequency of AITs increased. The similarities in distress levels for intrusive thoughts across student and incarcerated samples was also observed by O'Neill et al. (2009), where no differences were found in the level of distress

associated with intrusive thoughts or impulses across groups. However, it is currently unclear from DeLapp et al.'s (2018) and O'Neill et al.'s (2009) studies whether offender populations experience distress from intrusive thoughts due to their content, level of intrusiveness, or other related factors akin to those that are seen in non-clinical and OCD populations. Further research is required to examine how differences in distress levels may be related to the content type of an intrusive thought as well as to other factors such as level of intrusiveness, frequency, and appraisal.

Distressing versus pleasant subjective experiences

Aggressive Scripts

To the best of the authors' knowledge, there is limited understanding of the subjective states that occur in forensic populations when aggressive scripts are experienced. Some studies have identified the negative impact aggressive fantasy rehearsal has on subjective well-being (Poon & Wong, 2021), where other studies have highlighted the increase in positive affect that occurs from rehearsing thoughts of harming others (Patel, 2015). This conflict in research findings is further complicated by the minimal research that has been dedicated towards exploring the relationship between the emotional experiences associated with aggressive scripts.

In a community sample of participants (N = 113), Poon and Wong (2021) explored the effects of prolonged rumination of aggressive fantasies on participants' subjective well-being, as measured by their responses on the Satisfaction with Life Scale and the Positive and Negative Affect Schedule. Findings revealed that participants who fantasised about harming another person reported lower levels of subjective well-being than participants who did not engage in aggressive script rehearsal. The implications of aggressive script rehearsal on one's emotional experience has also been investigated by Patel (2015), where a sample of 48 offenders from a Forensic Mental Health Hospital in the United Kingdom were examined to

identify qualities of their aggressive scripts and aggressive fantasies. The exploratory nature of Patel's (2015) study meant that offenders were not provided with a pre-determined definition of what constitutes an aggressive thought or aggressive fantasy, but rather respondents were given the opportunity to define and describe their understanding of the concepts in their own words. Qualitative analyses identified that offenders experienced aggressive scripts as being more distressing than aggressive fantasies. Offenders operationalised aggressive scripts as thoughts embedded in reality that were provoked by environmental stressors (e.g., being threatened or bullied). Aggressive fantasies on the other hand, were described as creations of fiction and associated with enjoyment and pleasure, for example, causing harm to others as part of revenge. Offenders reported not wanting to experience an aggressive script, as they were characterised as provoking anxiety and feelings of unease. Offenders described that this emotional response was resultant from the belief that aggressive thoughts were part of reality, and they thus were perceived as having an increased risk regarding the thought becoming true.

Patel's (2015) findings align with current understandings of intrusive thoughts and distress, where cognitive models highlight the influence that interpretations of thoughts can have on the subsequent emotional experience (Rachman, 1997). In contrast to the understanding of obsessions in OCD research was the finding that some offenders who experienced aggressive scripts believed that they were more likely to act on them. This aligns with conceptualisations of aggressive scripts where the rehearsal and the continual engagement with aggressive thoughts increases their connections with aggressive behaviours (Huesmann, 1998). It is currently unclear whether the anxiety and feelings of unease described by offenders as occurring when aggressive scripts were experienced decreased the likelihood of aggressive acts, as this was not examined by Patel (2015) or any other studies to date. Patel (2015) noted that only a few offenders reported an increased likelihood of acting

on their aggressive thoughts, and it is not clear whether they reported negative subjective experiences (e.g., anxiety and unease) when these thoughts were rehearsed initially. Further examining the role that negative affect and subjective experiences may play in the rehearsal of aggressive scripts would allow for a clearer understanding of how these thoughts may be distinguished from AITs. A point worthy of consideration when interpreting Patel's (2015) findings is the difficulty in ascertaining whether the experiences of aggressive scripts that were considered unpleasant, distressing, and anxiety provoking were in fact intrusive thoughts (i.e., like those commonly reported by non-clinical and OCD populations) or aggressive scripts (i.e., those commonly investigated in forensic research). Thus, further research is warranted in identifying whether aggressive intrusive thoughts experienced by offender populations are associated with negative subjective states.

Recent research has explored the emotional sequalae to aggressive script rehearsal, where Hosie et al. (2021) identified in a sample of 131 prisoners that anger was the most common emotion associated with script rehearsal, followed by hate, fear, sadness, confusion and annoyance. Hosie et al. (2021) also revealed that offenders who had been physically aggressive towards another person more than 10+ times were found to be more likely to feel excited and more in control when rehearsing their aggressive scripts, than offenders who had been physically aggressive towards another person no more than nine times. Auvinen-Lintunen et al. (2015) compared the differences between genders in emotional responses to aggressive script and found that females reported experiencing stronger negative emotions (i.e., anger, anxiety, feeling confused and afraid) and males reported feeling a sense of humour towards their aggressive scripts. When interpreting these findings it is important to note that Auvinen-Lintunen et al. (2015) measured aggressive thoughts by asking respondents "Have you ever had homicidal fantasies?", which was described by Auvinen-Lintunen et al. (2015) as a limitation of their study. The use of these terms may have coloured

respondents' subjective experiences, as the terms 'homicidal' and 'fantasies' may be sensitive areas of exploration for respondents. Additionally, the use of the term 'fantasies' may explain the differences in the emotional reactions that males and females reported, where males may have experienced humorous feelings by perceiving fantasies as fictional and only as imagined situations, which aligns with current definitions of fantasies (Burgess et al., 1986). The findings from the aforementioned studies that explored the relationship between aggressive scripts and emotional experiences have identified how one's subjective experience appears to be a relative phenomenon that is dependent on how aggressive scripts are interpreted or perceived at an individual level. For some, aggressive scripts cause significant anxiety and trepidation, and for others they appear to be sources of pleasure or amusement. Exactly why these differences may exist requires further exploration.

4.4.4 Control and neutralising strategies

Aggressive Intrusive Thoughts

Phenomenological explorations of AITs have established that such thoughts are experienced as uncontrollable. Uncontrollability, alongside factors of content themes and subjective distress have been found to relate to the experience of aggressive intrusions (Rachman, 1981). Cognitive behavioural theories of OCD suggest that control and neutralising strategies are resorted to by an individual in order to prevent an unwanted thought from becoming true and to reduce the individual's negative affect (Salkovskis, 1989). Differentiating neutralisation strategies from compulsions, which are a central component of OCD phenomenology, has proved difficult. Clark (2004) suggested that compulsions are ritualistic, repetitive behaviours that are generally fixed ways of responding to an unwanted intrusion (e.g., repetitively washing one's hands), whereas neutralisation is described as a flexible way of behaving that aims to remove the unwanted thought from mind and to prevent the perceived consequences of the thought. Neutralisation is conceptualised as a way of

cancelling out or undoing the perceived effect of the unwanted thought (e.g., replacing the image of harming another person with a pleasant positive thought).

Several studies have been conducted examining the different control strategies used to neutralise repugnant intrusions, however little research has examined AITs specifically. Berman et al. (2012) examined the different control strategies used when harm intrusions were experienced by students, specifically when AITs that centred on a vulnerable victim were evoked. Participants were placed into two groups, a 'strong condition' where they were asked to identify an able-bodied victim, and a 'weak condition' where they were asked to identify a vulnerable victim (i.e., elderly person aged between 60 -100). The AIT was evoked by participants reading and completing the following sentence with their specified victim: "*I hope ____ gets into a car accident this week and ends up in critical care*". Participants who thought of a vulnerable victim experienced greater distress, increased feelings of moral wrongness, and a need to neutralise the thought experience. Berman et al.'s (2012) findings also provide support for the different appraisals used in interpreting unacceptable thought experiences, whereby participants in the 'weak condition' believed they needed to exert control over their thoughts as well as believing that there was a greater possibility for the thought becoming true. With regards to control strategies, over half of the study sample engaged in neutralisation of thoughts, where no differences were found between groups in the frequency of neutralisation strategies. Covert strategies such as engaging in a mental neutralisation techniques (e.g., counting, thinking about something opposite, praying) were most common across both groups. Berman et al. (2012) interpreted the frequent use of covert neutralisation strategies as a possible way for participants to avoid judgement from the experimenter. Additionally, given the intrusive thought experience was induced by experimenters in this study, it raises issues regarding the ecological validity of the thoughts compared to spontaneous intrusive thoughts. It is also worth noting the relevance of these

findings to individuals with OCD whereby Parsons et al. (2017) found that the thought task of imagining a vulnerable victim did not elicit distress that was unique to OCD. These findings suggests that this thought task may evoke distress in participants beyond what is seen in individuals with OCD. Nevertheless, Berman et al.'s (2012) findings provide some indication of how thoughts that include harm towards a vulnerable victim are more likely to influence negative subjective states and promote the use of neutralisation strategies.

Similarly to Berman et al.'s (2012) findings, Belloch et al. (2004) found that in order to control their most upsetting intrusive thought, a student sample (N = 334) used a variety of control strategies with the three most common including reasoning with self, covert distraction, and covert neutralisation. Differences between gender were identified, where women were found to employ all the aforementioned strategies more frequently than men. The findings of both these studies show how individuals respond to experiences of unwanted intrusive thoughts. Strategies employed to manage intrusive thought experiences have been vastly researched in the OCD literature and it has been elucidated that the type of strategies used by individuals is highly idiosyncratic, does not always follow a linear trend, and is dependent on factors including the frequency, distress, and appraisal associated with the thought (Freeston et al., 1995; Freeston et al., 1991; Moulding, Coles, et al., 2014; Purdon & Clark, 1994a). It has long been proposed that the use of control and neutralisation strategies may directly influence the recurrence and frequency of intrusive thoughts, in addition to serving the immediate function of relief and reduction in one's emotional distress (Clark, 2004; Salkovskis, 1989). Although, the efficacy of these strategies in reducing the recurrence and frequency of intrusive thought through has been debated (Clark, 2004). In the context of AITs, Salkovskis (1985) describes neutralisation as an individual's attempt to reduce or avoid the responsibility of harm occurring to others. There are several types of strategies, both overt and covert, that individuals may employ to control, neutralise or supress their unwanted

intrusive thoughts, with the five most common including: (1) distraction (e.g., thinking about something else), (2) social control (e.g., talking to a friend about the thought), (3) worry (e.g., dwelling on other worries), (4) punishment (e.g., punishing self for thinking the thought), and (5) reappraisal (e.g., reinterpreting the thought; Luciano et al., 2006).

Amir et al. (1997) explored differences in the types of thought control strategies utilised by individuals with OCD (n = 55) and a non-clinical sample (n = 27). Using the original Thought Control Questionnaire (TCQ) developed by Wells and Davies (1994), Amir et al. (1997) found that participants with OCD used more punishment, worry, reappraisal, and social control strategies to manage their intrusive thoughts, than did the non-clinical participants. The use of distraction was most frequently reported by non-clinical participants. Amir et al. (1997) also found that the use of punishment was a clear discriminator between participants with OCD patients and the non-clinical sample, where punishment strategies were used less frequently by non-clinical participants. The use of punishment, as well as worry, was also found to significantly correlate with the severity of obsessive-compulsive symptoms, which is consistent with previous findings that have highlighted the impact that punishment has on stress, anxiety and psychopathology (Wells & Davies, 1994). These findings seem to suggest that the use of certain thought control strategies may be maladaptive, in turn contributing to the return of unwanted intrusive thoughts rather than eradicating them from one's mind.

Although neutralisation and control strategies reduce the discomfort associated with the unwanted intrusive thought, some negative long-term consequences may arise from these behaviours. A study by Ahern et al. (2015) provided support for the immediate implications of using neutralisation strategies, where significant reductions in distress were evident when a covert neutralisation strategy was used subsequent to an unwanted intrusive thought. However, consistent with previous research in this area (Clark, 2004; Wells & Davies, 1994),

when an unwanted intrusive thought was evoked at a later stage, respondent's level of distress and the need to neutralise increased (Ahern et al., 2015). These findings suggest that the neutralisation may leave an individual vulnerable to further distress when an intrusion is experienced at a later point in time. Additionally, the evidence remains unclear whether the use of thought control strategies effectively manages the experience of unwanted intrusive thoughts in the long term.

Control and neutralising strategies

Aggressive Scripts

The investigation of the use of control and neutralisation strategies for aggressive scripts is limited. Nagtegaal et al.'s (2006) study explored the association between aggressive scripts and the use of different thought control strategies in a sample of students (N = 72). Approximately 60% of the sample reported aggressive script rehearsal, and thought suppression, distraction, and cognitive reappraisal were found to be frequently used by students, when compared with social coping, worry, and punishment strategies. Some thought control strategies were significantly associated with aggression, as measured by the Aggression Questionnaire, where punishment, suppression, worrying, and reappraisal were positively linked with hostility and general anger displays, whereas distraction was found to be negatively linked with aggression (i.e., reduced the likelihood of anger displays). The finding that individuals using control strategies other than distraction to suppress aggressive scripts are more likely to experience aggression is consistent with the notion that most techniques commonly reported as thought control strategies are not effective in controlling or eradicating aggressive thought experiences.

Similar to the AIT research, thought control methods that employ a punishment technique appear to produce negative outcomes (Wells & Davies, 1994), whether it be an increase in one's negative affect or leaving one vulnerable towards aggressive behaviours

(Bushman, 2002). Nagtegaal et al.'s (2006) finding that the use of distraction acts as a functional strategy for supressing aggressive scripts is consistent with previous research on distraction techniques which has found this method to be an effective emotional regulator (Bushman, 2002). Specifically, distraction has been found effective in regulating angry affect; however, no association has been found with reducing aggressive tendencies (Bushman, 2002).

Few studies have directly investigated the motivations behind using thought control strategies for aggressive scripts. Patel's (2015) qualitative study of violent offenders (N = 48) explored the way in which violent thoughts and fantasies were managed. It was found that in general, managing violent thoughts were motivated by reducing the risk of violent behaviour, which was prompted by the need to be careful. Offenders described the management of these thoughts through methods such as avoidance (e.g., physically removing self from provoking situation), distraction (e.g., engaging in an activity that alters focus from provoking situation), and social coping (e.g., sharing the violent thought with staff to receive help and support with the negative experience). These findings share similarities to the motivations seen by individuals with OCD where the use of control strategies is motivated by the belief that the aggressive thought may become true.

It was also highlighted by Patel (2015) that some offenders felt an urge to act out the violent thought, with the belief that this would help eliminate or eradicate the thought experience. Other offenders also identified a belief that directing the violence towards themselves through deliberate acts of self-harm would be productive in managing the expression of the violent thought. These findings share similarities with Amir et al.'s (1997) results, where individuals with OCD were found to frequently report using punishment techniques as a primary method for thought suppression. However direct comparisons should be cautioned as the unwanted intrusive thoughts individual suppressed in (1997) study were

not specific to aggressive contents, and thus the motivations for punishment strategies may serve different purposes to that which is observed in offender samples. Whether similarities exist in the thought control strategies employed when thoughts of harm or injury to others are experienced by individuals with OCD and offenders currently remains unclear.

4.4.5 Self-Themes: ego-dystonicity & the feared self

Aggressive Intrusive Thoughts

Several cognitive models of OCD have been created to explain the impact different self-themes and individual self-perceptions may have on the experience of intrusive thoughts within OCD (Doron & Kyrios, 2005; Doron et al., 2008). This section will review the existing literature on different self-themes that have been implicated in obsessive-compulsive symptoms, specifically the role of ego-dystonicity, feared self-perceptions, and sensitive self-domains.

A feature that has been used in OCD research to characterise clinical obsessions is ego-dystonicity. Ego-dystonicity refers to the extent that the content of an intrusive thoughts is inconsistent with one's sense of self, contradicting an individual's values, ideals, and morality (Clark, 2004). An ego-dystonic thought may include an intrusion about harming a loved one, where the individual experiences this thought as reflecting inconsistencies with their sense of self, and outside the thoughts they would expect to have. A systematic review by Jaeger et al. (2021) revealed OCD-relevant intrusive thoughts and obsessions were ego-dystonicity, and that the experience of beliefs that imply a feared or immoral self are strongly related to the presentation of obsessive-compulsive symptoms. Ego-dystonicity aligns with Rachman's (1997) cognitive model of obsessions where it is proposed that unacceptable thoughts that encompass moral wrongness (e.g., aggression, sex, blasphemy), become problematic and may escalate to clinical obsessions when the individual appraises these thoughts as representing an unknown or abhorrent part of themselves. The individual in turn

assigns personal significance to the content and meaning of the intrusive thought (Rachman, 1997). This interpretation becomes problematic for the individual. Ferrier and Brewin (2005) found that individuals with OCD interpreted their unwanted obsession as reflecting negative inferences of their personality. These ego-dystonic intrusive thoughts evoke distress in the individual and are met with resistance which precipitates the need to use control and neutralising strategies. This is particularly relevant to intrusive thoughts that concern harm, violent, sexual, or abhorrent themes, whereby one is likely to interpret these intrusions are repugnant and immoral, and experienced as alien to their sense of self (Clark, 2004).

The Ego Dystonicity Questionnaire (EDQ) is the primary measure of ego-dystonicity. The EDQ comprises items that measure the extent to which an intrusive thought is experienced to the individual as undesirable (e.g., do not want it to come true), irrational and inconsistent with one's personality (e.g., not the kind of thought I would expect), and immoral (e.g., against what is right). In a sample of individuals with OCD (N = 28), Purdon et al. (2007) found that the experience of ego-dystonic thoughts surprisingly was negatively related to obsessive compulsive symptom (OCS) severity. This finding suggests that a non-linear relationship between ego-dystonicity and OCD may exist, whereby changes in levels of OCS may occur when more chronic and frequent ego-dystonic thoughts are experienced (Purdon et al., 2007). Purdon et al.'s (2007) findings are consistent with previous accounts of ego-dystonicity, where Purdon and Clark (1999) have suggested that one may become accustomed to their ego-dystonic thought, incorporating what they appraise from the thought into their personal self-view.

Self-themes have received increased attention within OCD research, where interest lies in the way that individuals' self-perceptions are linked to the frequency, and maintenance of intrusive thoughts (Doron et al., 2008). It has been proposed that "sensitive" self-domains, which are areas of life where one lacks confidence, may be areas in which the individual is

vulnerable to thoughts that are experienced as ego-dystonic and unacceptable (Doron & Kyrios, 2005; Doron et al., 2008). This vulnerability to unwanted thoughts may also be seen in individuals who hold an ambivalent self-view which includes the individual being preoccupied with a self-view that is dichotomised as being either "good" or "bad" (Bhar & Kyrios, 2007). Ambivalence towards the self-concept renders an individual vulnerable to intrusive thoughts that are appraised as immoral or sensitive. In addition to these sensitive self-themes, a construct known as the "feared self" has been explored in relation to the appraisal process of unwanted intrusive thoughts (Aardema et al., 2017). Specifically, the feared self includes attributes that an individual fears becoming and/or possessing, which are believed to sit hidden beneath one's personality or self-concept (Aardema et al., 2017). When the feared self is implicated, individuals may appraise their unwanted intrusive thoughts as representing components of their self-concept that are bad, immoral, or dangerous, which contribute to distress and negative obsessive compulsive symptoms (Melli et al., 2016). Investigations of the feared self have identified that intrusive thoughts with repugnant and unacceptable content themes such as aggressive intrusions relate most strongly with the feared self construct (Aardema et al., 2017; Aardema et al., 2013). Wong et al. (2020) found that by inducing feared self perceptions in a virtual reality-based paradigm, participants experienced aggressive intrusive thoughts and the urge to neutralise their thoughts more frequently than those participants who did not have induced feared self-perceptions. Further, Melli et al. (2016) found that the feared self was strongly associated with high levels of importance placed on repugnant thoughts, as well as the belief that the thought needs to be controlled. For example, an individual who experiences an AIT about harming a loved one or friend may appraise this intrusion as revealing a negative aspect of their persona; the feared self (e.g., I am a dangerous person). Further, the individual may assign over importance to the presence of this intrusion and engage in neutralising strategies to control the thought or to

prevent the perceived consequences of the thought. Additionally, this individual may also experience fear of who they are or might become, based on the abhorrent content of the AIT itself (Rachman, 1997). Research on the feared self suggests that not only is the content of the thought experienced as ego-dystonic, but the inferences individuals make appear to implicate sensitive self-domains (Ferrier & Brewin, 2005; Rachman, 1997).

Self-themes: ego-dystonicity & the feared self

Aggressive Scripts

Within the context of aggressive scripts, there has been little empirical investigation into self-domains and their implications for the experiences of aggressive and violent thinking. Although associations have identified between thoughts of harming others and self-perceptions within OCD research (e.g., ego-dystonicity and the feared self), it is unclear whether these self-themes (i.e., ego-dystonicity and the feared self) are also implicated in aggressive script rehearsal. In studies of the self within offender research, the role that negative self-perceptions may have on the experience of aggressive scripts has not been directly explored, rather the effect that self-views have on desistance (i.e., abstaining from crime) has been highlighted (Paternoster & Bushway, 2009). Offender research appears to focus on self-views after offending has occurred, postulating that offenders view their self-concept as criminal, and the feared self plays a role in motivating change towards a prosocial desired self (Paternoster & Bushway, 2009). It is highlighted that offenders wanting to abstain from crime may experience aversion towards future crime due to the negative inferences made from their feared self-perceptions. (Paternoster & Bushway, 2009). As such, current understandings of the feared self in forensic research suggests that the effect of negative self-perceptions may be a motivator behind reducing recidivism; however, whether the feared self-influences the experience of aggressive scripts and their rehearsal has not been directly examined. Similar to what is experienced when ego-dystonic thoughts become

accustomed to an individual's self-view after frequent experiences of the thought, Patel (2015) suggests the possibility of violent thoughts becoming a part of an offenders self-identity when they serve a function to the individuals' needs, such as self-regulation. Patel (2015) highlights that the experience of violent thoughts and fantasies have origins in childhood experiences. This early experience may overtime normalise the presence of violent thoughts and fantasies in mind, which in turn would contribute to the incorporation of these thoughts into one's self-view. Similar to the process that is observed with intrusive thoughts, Patel (2015) identified that some offenders acknowledged their violent thoughts as socially and morally inappropriate. However, while there are potential similarities, one difference between intrusive thoughts in OCD and aggressive scripts in offender samples is the functional properties that aggressive thinking serves the individual (e.g., emotional regulation). It appears that for offenders this functional aspect is as an important factor in their engagement with their aggressive thoughts and fantasies (Patel, 2015).

There has been some research with OCD that has identified the relationship between repugnant thoughts (e.g., those that concern harm, sexual, or blasphemous themes) and feared self-perceptions (Aardema et al., 2013; Aardema et al., 2021; Aardema et al., 2019), but how these feared self-beliefs related to aggressive thoughts specifically remains unclear. Currently, the feared self is measured using a revised 8-item version of Fear of Self Questionnaire (FSQ; Aardema et al., 2013) where items explore the negative self-perceptions one may hold resultant from the experiences of unwanted intrusions (e.g., I am afraid of the kind of person I might become). Whether these perceptions are applicable to the experience of aggressive script rehearsal requires investigation. Current understandings of how offenders perceive their self-concept suggest that the concept of feared or possible selves may be implicated, particularly regarding re-offending and future risk (Paternoster & Bushway, 2009). It is therefore worth investigating whether feared self-perceptions are related to the

experience of aggressive script rehearsal to further understand the role these self-perceptions may have in deterring individuals from engaging in future acts of aggression. By examining the relationship the feared self may have in offender samples using a validated measure of this construct is therefore warranted.

4.5 Summary

In this review, the features of aggressive intrusive thoughts (AITs) have been explored and compared with aggressive scripts. Despite the commonality that exists with the content of AITs and aggressive scripts, it has been suggested in this review that not all features of aggressive scripts can be viewed from the lens of intrusive thoughts of OCD literature. This is due to the lack of empirical investigations of these features within the forensic literature and specifically with aggressive scripts, as well as the complexities in the measurement of aggressive scripts and AITs more generally. What has been made clear by reviewing the literature is the possibility of offender populations experiencing aggressive scripts, to some extent, in similar ways to intrusive thoughts in OCD. The following table provides a summary of the dimensions of aggressive intrusive thoughts and how they are comparable to aggressive scripts.

Table 1. Differentiating Characteristics of Aggressive Intrusive Thoughts and Aggressive Scripts

Aggressive Intrusive Thoughts	Aggressive Scripts
• Unwanted & intrusive	• Unwanted? Intrusive? (unclear)
• Spontaneous	• Rehearsed
• Frequent & recurrent	• Frequent & recurrent
• Distressing	• Distressing? Emotional regulation function
• Compulsions or control strategies	• Thought control strategies

• Externally triggered • No evidence of past aggressive behaviours or experiences	• Influenced by provoking environments • Influenced by past experiences of aggression

The similarities appear within the subjective experience of aggressive scripts, specifically the way these thoughts of harming others occur frequently and spontaneously, induce distress, and discomfort, and motivate the use of different thought control behaviours. There is also some evidence that suggests negative self-perceptions and feared self-domains may also be implicated in offender populations, however the direct relationship with aggressive scripts remains unknown. Further research is required within the area of aggressive thinking, where the subjective experience of aggressive thoughts either in clinical or forensic domains have implications for the individual who presents with them but also for the clinicians treating them. Future research may be guided by the lack of empirical research that directly compares AITs and aggressive scripts based on their features. Additionally, empirical research is warranted in areas that investigate issues in measurement of these constructs, where current measures appear unable to clearly differentiate between the two phenomena.

PART II –EMPIRICAL RESEARCH: OVERVIEW, METHODOLOGY AND FINDINGS

CHAPTER 5 – EMPIRICAL RESEARCH INCLUDED IN THIS THESIS

The previous chapter provided a critical review of the literature that explored common features of intrusive thoughts in OCD. The chapter integrated known features of intrusive thoughts and compared these features of aggressive script rehearsal, using literature from forensic research domains. Further, to address the overarching research thesis aims and contribute towards rectifying gaps in the literature as outlined in chapter one, two empirical studies were conducted. The research examined the experience of AITs and aggressive script rehearsal, specifically exploring the prevalence amongst non-clinical and clinical populations. Additionally, relationships between AITs, aggressive script rehearsal, and dysfunctional cognitions such as obsessive beliefs and violence supportive beliefs were examined. The association between AITs, aggressive script rehearsal, and a history of aggressive behaviour were also examined. Finally, the subjective experiences associated with AITs and aggressive script rehearsal were explored. The manuscripts of these empirical studies are described below including each of the manuscripts aims and hypotheses.

5.1 Empirical Study One

The first empirical study aimed to address thesis aim one; to explore the similarities and differences in the phenomenology of AITs and aggressive scripts. The first aim of the study was to investigate the differential cognitive predictors of AITs and aggressive scripts using a non-clinical sample. More specifically, general and specific cognitive predictors related to OCD, and general beliefs related to violent attitudes and aggression were investigated to address this aim. The contributions of the feared self, thought control strategies, and ego-dystonicity were also examined. Behavioural outcomes measured by a retrospective recollection of a history of aggression, and obsessive compulsive symptoms

were examined to determine their relationships with maladaptive beliefs. The following hypotheses were made:

(1) *It was hypothesised that ego-dystonicity, self-ambivalence, and the fear of self would predict AITs.*

(2) *It was hypothesised that violent attitudes, anger rumination, and life history of aggression would predict aggressive scripts.*

(3) *It was hypothesised that general OCD beliefs and thought control strategies would predict the experience of obsessive-compulsive symptoms.*

(4) *It was also hypothesised that anger rumination and violent attitudes would predict a life history of aggression.*

5.2 Empirical Study Two

The second empirical study aimed to address thesis aim two, to explore the whether the experience of AITs and aggressive scripts is comparable, for both clinical and forensic populations. The first aim of the study was to examine the subjective experience associated with AITs and aggressive scripts by examining the role associated beliefs and features (e.g., intrusiveness, spontaneousness, ego-dystonicity, feared self, level of distress) have on the experience of these phenomena. Due to the exploratory nature of this study, no specific hypotheses were made. The following research questions were used to guide the study development and completion:

1. What are the phenomenology of AITs and aggressive scripts?
2. What are the similarities and differences in phenomenology between AITs and aggressive scripts?
3. What are the emotional and behavioural outcomes associated with AITs and aggressive scripts?

CHAPTER 6 – METHODOLOGY

6.1 Overview

This chapter details the research design and methods used in the two empirical studies. It is acknowledged that each empirical paper presented in the following chapters contains their own methodology relevant to each of the studies. However, as each empirical paper has been prepared for publication, word restrictions apply, and thus methodology covered within each paper is limited. This expanded methodology section provides a more complete account of the methodology to assist the reader to fully appreciate the different methods. There is therefore, some inevitable repetition across chapters regarding the methods used. The purpose of this chapter is to provide more specific detail surrounding decisions made for the research design, sample selection, and ethical considerations. Additionally, the recruitment process, measures used, data collection procedures, and data analyses employed are described.

6.2 Research Design

The two empirical studies utilised a cross-sectional design, with study one using predominately quantitative methods, and study two using a mixed-method design of both quantitative and qualitative methods. By using quantitative methods, study one explored the predictors of aggressive script rehearsal and AITs, inclusive of dysfunctional beliefs, self-related beliefs, obsessive-compulsive symptoms, and a history of aggressive behaviour. Utilising both quantitative and qualitative methods in study two allowed for both symptom and subjective experiences to be explored, with qualitative questioning enabling further examination of aggressive thoughts, and their association with other factors (e.g., emotional reactions, ego-dystonicity).

6.3 Participant Selection

Study one involved the recruitment of individuals from the general population. Given that the experience of intrusive thoughts is considered a common phenomenon, occurring in approximately 92% of individuals at some stage in their life (Julien et al., 2007), study one was interested in examining how the experience of intrusive thoughts relates to aggressive scripts and associated features.

Study two involved the recruitment of a group of individuals diagnosed with OCD, and a group of individuals receiving treatment for violent offending or anger issues through a Community Forensic Mental Health Service. While the intetion was to recruit participants with OCD for study two given the commonality of AITs in this clinical population (Rachman, 1997) this proved too challenging given COVID-19 disruptions. It is suggested that AITs in OCD are not related to aggressive behaviour (Veale et al., 2009), and thus the intention to recruit from this population group was to explore the potential factors that may protect against aggressive behaviour by exploring the subjective experiences associated with AITs. Participants with a history of interpersonal violence or anger issues were recruited for study two given the increased likelihood that aggressive scripts could be reported (Daff et al., 2015). There is a general acceptance that a history of violence, and the presence of violence supportive beliefs are related to the experience of aggressive script rehearsal (Hosie et al., 2021), and thus empirical study two was interested in examining the experiences of aggressive scripts in individuals with relevant backgrounds as well as understanding the subjective experiences associated.

When planning the recruitment processes for study two, we acknowledged that difficulties may arise in the recruitment of participants with OCD who report experiencing AITs, as it is likely that participants with OCD are reluctant to report their AITs for fear of how they may be interpreted by others, and the perceived consequences of this. It was also

acknowledged that certain questions within the interview protocols are considered sensitive topics (e.g. I've had a mental intrusion about injuring or harming someone close to me), and may cause discomfort to some participants. To support participants who become uncomfortable or distressed, several procedures were put in place, including providing participants with support services resources (e.g., Lifeline, Lifeline International, Beyond Blue; refer to Appendix J).

Additionally, given the nature of the data collected, it was acknowledged and made clear to participants at the beginning of the interviews, that the researcher was bound by ethical guidelines pertaining to breaches of confidentiality and mandatory reporting, and that if there was a reasonably belief that risk was imminent to the participant or any other persons, reporting to relevant authorities was required.

6.4 Ethical Procedures

Full approval for study one was granted by the Swinburne University Research Ethics Committee (Ref: 20190386-1937). See appendix A for supporting ethical approval documents. Full approval for study two was granted by Swinburne University Research Ethics Committee (Ref: 20215556-7961) and the Forensicare Operational Research Committee. See appendix B and appendix C for supporting ethical approval documents.

Prior to commencing the online survey for study one, participants were provided with an advertisement of the study, an explanatory statement that detailed information about the study, consent processes, withdrawal procedures, confidentiality, data storage, and dissemination of study results (see appendix D, E, F). Participants consented to participate by answering yes or no within the survey. At the end of the survey participants were provided with a debriefing statement, which reiterated the purpose of the study and provided participants with crisis line numbers if required (see appendix G). Participants were given the option to provide their emails to sign up for the gift voucher prize draw.

Prior to commencing interviews for study two, participants were given the advertisement of the study either by the student researcher, or by their treating clinician (see appendix H and I). Participants were also provided with the explanatory statement that detailed information about the study, what it involved, consent processes, data storage and dissemination procedures (see appendix J). Participants provided consent by signing a statement of informed consent (see appendix K). Before commencing the interview, participants were reminded that should any of these responses raise questions about their safety, or the safety of others, relevant treating clinicians or authorities would be notified. Participants consented on grounds of these terms. No identifying information, including consent forms, were stored with completed interview transcripts or survey responses. All interview documents were individually assigned a unique code and thus were de-identified. Participants were informed that any of their responses to the questions in the interview or the surveys would not be disclosed to their treating clinicians or support staff. Participants were provided an AUD$30 gift voucher for their participation.

Funding was provided to the student researcher and author of this thesis by Swinburne University through the Research Training Program Stipend.

6.5 Procedure

6.5.1 Recruitment

Study one recruitment occurred between June 2020 and October 2020. Participants were recruited using an undergraduate psychology research experience program from an Australian University. The study advertisements were uploaded via the student research experience program portal, and students chose to participate based on their interest in the study. Students participated in the study in exchange for course credit. Participants were also recruited through advertisements on social media (Gumtree, Whirlpool, Twitter, and Reddit),

and additional participants were obtained via "snowball" methods initiated by those who participated. Only participants recruited via social media streams were offered the opportunity to enter into a draw for one of four AUD$100 gift vouchers.

Study two recruitment occurred between August 2021 and July 2022. During the second half of the year in 2021, the state of Victoria, where the study was conducted, underwent a protracted COVID-19 lockdown impacting recruitment processes. As participants were being sought from the Systematic Treatment of Obsessive-Compulsive Phenomena (STOP) OCD group program via the Swinburne University of Technology Psychology Clinic (STOP OCD Group program) and the Community Forensic Mental Health (CFMHS; Handling Anger Wisely Program), these programs were postponed until early 2022. During the time between August 2021 and January 2022, the student researcher contacted treating clinicians within CFMHS and clinicians in community private practice, providing them with the advertisement and statement of information of the study to pass on to potential participants. Participants recruited via their treating clinicians involved participants following a link on the advertisement flyer where they were asked to provide their contact details to have the student researcher contact them to discuss the project, consent processes, and to organise an interview.

Amendments to the Swinburne University Research Ethics Committee and Forensicare's Operational Research Committee applications were made to accommodate for online video or telephone interviews to be conducted. Despite these amendments, community treatment clinicians involved in supporting the recruitment of required participants were unable to identify participants who, (a) met the eligibility criteria for the study, or (b) were comfortable in sharing their experiences of AITs or aggressive scripts. It is worth noting that the student researcher was able to liaise with community OCD treatment clinicians, and it was identified that a common barrier for research participation in individuals diagnosed with

OCD and who experience AITs was the overwhelming fear associated with disclosing their aggressive thoughts, and the perceived repercussions associated with this disclosure.

Data collection began in early 2022 when both group programs were scheduled to resume. Recruitment of participants from the STOP OCD Group program involved facilitators providing potential participants with the advertisement flyer and obtaining consent from the participant to have their contact details passed on to the student researcher. The student researcher then contacted each interested participant, introduced the study, and explained the consent process. Despite having several individuals (*n*= 3) from the STOP OCD group program and community practices interested in participating, these individuals did not experience AITs and were therefore not eligible for the study.

Once group programs commenced in 2022, the student researcher contacted group facilitators of the Handling Anger Wisely Program to organise a time to present the study to group participants. The student researcher attended a scheduled group session and distributed advertisement flyers, introduced the purpose of the study, eligibility criteria, interview process, and reimbursement to the participants. If interested in participating, participants were given the statement of information and consent form and were given the opportunity to ask the student researcher any questions about the project. Participants were given the option to take the statement of information and consent form home to review, or review and sign the consent form at that moment. A day and time to participate was organised with the participant.

Between January and July 2022, four individuals from the CFMHS participated in the study. Data collection remained open until July 2022, until the decision was made by the student researcher and supervisory team to cease data collection.

6.5.2 Data Collection Process

Study one involved the administration of online self-report questionnaires to the general population. The survey battery consisted of a consent statement, questions related to basic demographics such as age, gender, place of residence, as well as questionnaires that measured unpleasant intrusive thoughts including AITs, aggressive script rehearsal, obsessive and feared self beliefs, obsessive-compulsive symptoms, violence supportive beliefs, a history of aggressive behaviour, anger rumination, ego-dystonicity, thought control strategies, and socially desirable responding. It took approximately 30-45 minutes to complete the online survey.

Study two involved the collection of basic demographic questions including age, gender, ethnicity, and behavioural history (e.g., violent offending or OCD diagnosis). A semi-structured was conducted using the Schedule of Imagined Violence (SIV), followed by further questioning depending on answers given to the SIV. The semi-structured interview also involved administration of the Questionnaire of Unpleasant Intrusive Thoughts, which was also followed by further questions depending on answers collected. A battery of self-report questionnaires were also administered measuring anger rumination, violence supportive beliefs, a history of aggressive behaviour, ego-dystonicity, obsessive and feared self beliefs, obsessive-compulsive symptoms, thought control strategies, and socially desirable responding. It took approximately 120 minutes to complete the semi-structured interviews and self-report questionnaires. Throughout the interview participants were reminded that they could take breaks if required, and ask questions as necessary. Only one participant refused to participate in the whole interview once recruited. Once interviews were completed, participants were sent the gift voucher via email, mail, or given to their corresponding psychology clinic for pick up.

The measures used in study one and two are explained below.

6.6 Materials/Measures

6.6.1 Participant Demographics

Participant demographics were obtained to provide a general characterisation of the sample used. Participants were asked about their age, gender, ethnicity, and in study two, additional questions about their background (i.e., violent criminal history, anger problems) were explored.

6.6.2 Socially Desirable Responding

Socially desirable responding is defined as a respondents tendency to answer self-report questionnaires in a way that presents them in a positive light (Paulhus, 2017). This becomes problematic as respondents who are responding in a socially desirable way are likely to be responding in this way across other measures administered concurrently (Paulhus, 2017). Therefore for the current thesis, it was important to consider socially desirable responding in the self-reports of respondents.

The Social Desirability Scale (SDS-17) is a 17 item self-report measure, devised from the Marlowe-Crowne Scale (Lück & Timaeus, 1969), that assess the extent to which participants engage in social desirable responding (for a copy of the SDS, please see Appendix L). Participants respond to items such as "I sometimes litter" on a dichotomous scale of true or false. The SDS has demonstrated adequate internal consistency (α = 0.72), and good test-retest reliability over a 4-week period (r = 0.82; Stöber, 2001).

6.6.3 Aggressive Script Rehearsal

Several studies have utilised the Schedule of Imagined Violence (SIV; Daff et al., 2015; Grisso et al., 2000; Hosie et al., 2021) as a measure of aggressive script rehearsal, and associations between aggressive script rehearsal and aggressive behaviour have been identified across several population groups (Grisso et al., 2000). Aggressive script rehearsal

is most commonly measured using the Schedule of Imagined Violence (SIV; Grisso et al., 2000), and the current thesis utilised an adapted version of the original SIV (see Appendix N). The original SIV comprised a set of eight items administered in a semi-structured interview format to measure details related to participants' experience of a daydream or thought about physical violence. Participants who answer positively to the first item (i.e., "Have you ever had daydreams or thoughts about physically hurting or injuring some other person?") are invited to answer an additional seven questions. Each remaining item asks participants to consider different aspects of their thought experience: form of thought (Item 1a), content of thought (Item 1b), frequency (Item 2), chronicity (Item 3), similarity/diversity in type of harm (Item 4), degree of seriousness (Item 5), proximity to target (Item 6), and context (Item 7).

Empirical study one of this thesis utilised question one of the SIV which asks respondents to report how frequently they rehearse their aggressive scripts, "How often do you have thoughts about hurting or injuring other people?". Empirical study two utilised the full modified version of the SIV that explores several facets of aggressive script rehearsal. Only the frequency item of the the SIV was used as the SIV has been shown to reliably associate with different levels of aggression, and several studies have confirmed that a greater frequency of aggressive script rehearsal is associated with greater likelihood of aggressive behaviour (Daff et al., 2015; Grisso et al., 2000; Hosie et al., 2021). A copy of this modified version is available in appendix M.

6.6.4 Aggressive Intrusive Thoughts

The Questionnaire of Unpleasant Intrusive Thoughts (QUIT) is a self-report measure of unpleasant intrusive thoughts. Derived from earlier measures of intrusive thoughts (Clark et al., 2014; Garcia-Soriano et al., 2011; Purdon & Clark, 1993), the QUIT assesses the experience of specific themes of intrusive thoughts. Five intrusive theme domains comprise

the QUIT: unpleasant content, physical appearance, diet and physical exercise, health-related, and relationship-related. For the purposes of the current project, only the unpleasant content domain was used (for a copy of the QUIT, please see Appendix N). Participants are provided with a preamble before questions are presented which defines what an intrusive thought is, their features and characteristics. The following description is read out to participants: "*This questionnaire includes a list of somewhat upsetting, unpleasant, or even disturbing thoughts that most people have had at some time. These thoughts SUDDENLY APPEAR IN OUR MINDS against our will, and INTERRUPT what we were doing or thinking at that moment. They can often be DIFFICULT TO CONTROL; that is, it can be difficult to get them out of our minds, stop them, or keep them from appearing, no matter how hard we try. Furthermore, they are UPSETTING, UNPLEASANT, and sometimes even DISTURBING or UNACCEPTABLE. These types of thoughts are called "MENTAL INTRUSIONS" or "SUDDEN, UNINVITED THOUGHTS", and they can appear in our minds in one or more of these ways: 1. As IMAGES, that is, like photographs that suddenly appear in our minds; 2. As an IMPULSE or STRONG AND URGENT NEED to do or say something; 3. As an unpleasant physical SENSATION; 4. Or, simply as THOUGHTS or DOUBTS about something.*"

The first part of the unpleasant content domain contains 12 intrusive thought examples, where participants rate items such as "While holding a sharp object like a knife, I have had mental intrusions about injuring or harming a person close to me" on the frequency and level of discomfort associated. Frequency is measured on a 7-point Likert scale ranging from 0 (*never*) to 6 (*always*), and discomfort is measured on a 5-point Likert scale ranging from 0 (*does not bother me at all*) to 4 (*is extremely disturbing*).

The second part of the unpleasant content domain asks participants to consider the type of intrusion, from the 12 items rated in part one, that was experienced in the past 3

months, which was the most disturbing/unpleasant or was bothersome due to its frequency. Participants are asked to indicate which intrusion is being referred to, and then are asked a series of questions which measure the form and recency of the intrusion, the context of its occurrence, and the subjective experience associated. Participants' subjective experience are rated using items such as "I try not to think about the intrusion; I try to mentally suppress it", on a 5-point Likert scale ranging from 0 (*never/not at all*) to 4 (*always/frequently*). Only the frequency item was used for the QUIT as it allowed for consistency and the most appropriate comparison between measures of aggressive thoughts.

The psychometric properties of the full QUIT have been assessed cross-culturally (Pascual-Vera et al., 2019) and it has demonstrated good to excellent internal consistency across different countries (α = 0.80 – 0.92).

6.6.4 Anger Rumination

Several research studies have found an association between anger rumination and anger (Bushman, 2002), as well as anger rumination and aggressive behaviour (Peled & Moretti, 2009). The Anger Rumination Scale (ARS) was used in the current thesis to assess thoughts around anger-provoking situations (Sukhodolsky et al., 2001). The ARS comprises 19 items and four subscales; Angry Afterthoughts, Thoughts of Revenge, Angry Memories, and Understanding of Causes (for a copy of the ARS, please see Appendix O). The current thesis only utilised the Thoughts of Revenge subscale, which measures thoughts about anger and retribution after provoking situations have occurred. This subscale was selected as the researchers were interested in exploring how perseverative thinking with regards to retribution and provocation related to other aggression constructs. Participants rate items such as "I have long living fantasies of revenge after the conflict is over" on a 4-point Likert scale ranging from 1 (almost never) to 4 (almost always). The original ARS has demonstrated

adequate internal consistency (αs = 0.72 – 0.86) and good test-retest reliability r = 0.77 for a one month period (Sukhodolsky et al., 2001).

6.6.5 History of Aggressive Behaviour

History of aggressive behaviour was measured using the Life History of Aggression (LHA) scale revised by Coccaro et al. (1997). Earlier versions of the LHA such as those used by Brown et al. (1979) were initially developed as a measure of lifetime history of aggression to establish associations with several biological factors in military personnel. Using items from the Brown et al. (1979) assessment, Coccaro et al. (1997) modified the LHA developing the measure into a semi-structured interview style format. The LHA has three subscales: the aggression subscale, the consequences and antisocial behaviour subscale, and the self-directed aggression subscale. The aggression subscale contains five items that measure the number of occurrences of aggressive behaviours since the age of 13. The items contain details of overt aggressive behaviour including verbal aggression, temper tantrums, destruction of property, fighting, and physical assaults. The current thesis has only utilised the aggression subscale in a self-report format (for a copy of the LHA, please see Appendix P). Participants rate items such as "Temper Tantrums" on a 5-point Likert scale ranging from 0 (no occurrences) to 5 (more events than can be counted).

Psychometric properties of the self-administered LHA are not available. However, the LHA has been found to correlate highly with the interview version (Dunne et al., 2018). Additionally, the aggression subscale has demonstrated good internal consistency (α = 0.87), and good test-retest reliability (α = 0.80; Coccaro et al., 1997).

6.6.6 Violence Supportive Beliefs

Violence supportive beliefs were measured using the Measures of Criminal Attitudes and Associates (Mills et al., 2002). The full measure of the MCAA consists of a two-part

self-report questionnaire. Part A quantifies the individuals association with individuals who have criminal involvement. Part B includes 46-items, across four subscales that measure differential criminal attitudes. The four subscales consist of Violence, Entitlement, Antisocial Intent, and Associates. The current thesis only utilised 13 items pertaining to the Violence subscale as the research was interested in exploring respondents attitudes supportive of violence only. Items such as "There is nothing wrong with beating up someone who asks for it" are rated on a dichotomous scale of agree/disagree (for a copy of the MCAA, please see Appendix Q). The violence subscale has demonstrated good internal consistency ($\alpha = 0.80$) and test-retest reliability ($\alpha = .73$)

6.6.7 Ego-dystonicity

Ego-dystonicity has been consistently found as a factor that differentiates obsessional intrusive thoughts from normal thought phenomena (Purdon et al., 2007). The Ego Dystonicity Questionnaire (EDQ) was originally created by Purdon et al. (2007). In an adaptation study with a Spanish sample, Belloch et al. (2012) reduced the measure to 27 items (for a copy of the EDQ-Revised, please see Appendix R). The self-report measure assesses the extent to which one believes the content of their thoughts is inconsistent with their self-beliefs, values, and moral attitude. For the purposes of the current thesis, the EDQ-R has been modified to ask participants to focus on their most upsetting Aggressive Intrusive Thought and/or their aggressive thought of wanting to harm or injure another person, whilst providing their ratings. Participants rate items such as "Thought is immoral" on a 7-point Likert scale ranging from 1 (strongly agree) to 7 (strongly disagree). The EDQ-R has demonstrated good internal consistency ($\alpha s = 0.94$).

6.6.8 Thought Control

Disparate research on AITs and aggressive scripts have identified that a range of thought control strategies are often employed to help participants manage the distress associated with the thought, as well as the thought experience and frequency (Belloch et al., 2004; Nagtegaal et al., 2006). The original Thought Control Questionnaire (TCQ) comprises 30 items (Wells & Davies, 1994) which measure the use of different control strategies (for a copy of the TCQ, please see Appendix S). The five factors measured by the TCQ include: distraction, social control, worry, punishment, and reappraisal. A recent psychometric study conducted by Luciano et al. (2006) confirmed a five-factor model with 16 items. This 16-item version was used in the current thesis. Participants rate items such as "I punish myself for thinking the thought" on a 4-point Likert scale ranging from 1 (never) to 4 (almost always). The 16-item version of the TCQ has demonstrated adequate internal consistency in the current study ($\alpha = 0.68$)

6.6.9 Obsessive Beliefs

Maladaptive beliefs have been extensively studied within OCD research (Obsessive Compulsive Cognitions Working Group, 2003). The Obsessive Beliefs Questionnaire (OBQ-20) is a short form version of the original OBQ **(**OCCWG, 2005**)**, and was developed by Moulding et al. (2011). A 20-item self report measure, the OBQ assesses four obsessive beliefs identified through factor analyses: (1) Threat, (2) Responsibility, (3) Importance of Thoughts, and (4) Perfectionism (for a copy of the OBQ-20, please see Appendix T). Participants rate items such as "If I'm not absolutely sure of something, I'm bound to make a mistake" on a 7-point Likert scale ranging from 1 (Disagree very much) to 7 (Agree very much). The OBQ-20 has demonstrated excellent internal consistency across all subscales $\alpha = 0.80 – 0.82$ (Moulding et al., 2011).

6.6.10 Self Ambivalence

Specific beliefs concerning uncertainty and preoccupations with one's self-worth and moral compass has received increased attention in OCD research (Bhar & Kyrios, 2007). The Self Ambivalence Measure (SAM) consists of 19-items and measures the degree to which individuals hold beliefs concerning uncertainty towards their self-concept, and dichotomous self-evaluations about the self (for a copy of the SAM, please see Appendix U). Participants rate items such as "I have mixed feelings about my self-worth" on a 5-point Likert scale ranging from 0 (not at all) to 4 (agree totally). The SAM has demonstrated excellent internal consistency ($\alpha = 0.93$; Aardema et al., 2013)

6.6.11 Feared Self

Self-themes, included feared self beliefs, have been found to relate with obsessive-compulsive symptoms (Aardema et al., 2013), specifically with repugnant obsessions such as AITs (Aardema et al., 2019). The FSQ is an 8-item self report measure that assess beliefs pertaining to covert aspects of one's personality (for a copy of the FSQ, please see Appendix V). Participants rate items such as "I often question my own character" on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly disagree).The FSQ-8 has demonstrated good internal consistency ($\alpha = 0.88$), and good convergent validity with other measures of self-related beliefs and constructs (i.e., Self-Ambivalence Measure $r = 0.68$; Inferential confusion Questionnaire $r = 0.72$; Aardema et al., 2013).

6.6.12 Obsessive Compulsive Symptoms

Obsessive compulsive (OC) symptoms are common characteristics of OCD (Leonard & Riemann, 2012), but have also been reported in non-clinical samples (Radomsky et al., 2014). The Obsessive Compulsive Inventory – Revised (OCI-R; Foa et al., 2002; for a copy see Appendix W) is an 18-item self-report measure that assesses a range of obsessive

compulsive symptoms, such as “I find it difficult to control my own thoughts”. Participants rate items on a 4-point Likert scale ranging from 0 (not at all) to 4 (extremely). The OCI-R has demonstrated excellent internal consistency (α = 0.90; Radomsky et al., 2014).

6.6.13 Depression, Anxiety and Stress

Research has confirmed an association between depression, anxiety and stress symptoms with OCD, particularly with the presence of aggressive obsessions (Ching et al., 2017). Given this association, the Depression, Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995) was used to control for these symptoms (for a copy of the DASS-21, please see Appendix X). The DASS-21 is a 21-item self-report measure comprising of three subscales: Depression, Anxiety, and Stress. The DASS-21 measures a respondents emotional well-being, and participants rate items such as “I felt that life was meaningless” within a reference period of the past seven days. Participants rate items on a 4-point Likert scale ranging from 0 (did not apply to be at all) to 3 (applied to me very much or most of the time). The DASS-21 has demonstrated excellent internal consistency across all three subscales (Depression: α = 0.91; Anxiety: α = 0.80; Stress: α = 0.84; Sinclair et al., 2012).

6.6.14 Construct Phenomenology

A semi-structured interview was developed to distinguish AITs and aggressive scripts for empirical study two. The interview schedule was derived from existing measures of AITs and aggressive scripts, as well the differential features pertinent to intrusive thoughts and aggressive script phenomenology. Items were developed by the research team and have been based on previous self-report and interview schedules from OCD and aggressive script research areas (Grisso et al., 2000; Pascual-Vera et al., 2019). The interview schedule is available in Appendix Y.

By using a semi-structured interview format, it allowed for the researchers to employ follow-up style questions to participant responses, particularly responses to the self-report questionnaires. For example, participants who reported rehearsing aggressive scripts were asked descriptive questions to explore their subjective experiences; such whether the aggressive scripts was experienced as intrusive, spontaneous, and distressing.

A mixed methods approach was used in empirical study two, where both quantitative and qualitative data were collected during interviews with participants. Both self-report measures and a semi-structured interview were used to contextualise the subjective experiences of script rehearsal.

6.7 Participant Sample

The original sample for study one consisted of 460 participants. After validity checks were conducted, the final sample included 412 English-speaking non-clinical subjects aged between 18 and 69 (M = 31.96; SD = 11.02; 73% females) who did not fail attentional control task questions and completed all questionnaires. Attentional control task questions were distributed throughout the survery, and asked participants to answer a question a specific way (e.g., select option A for this question). Attentional control task questions were used to determine if participants were answering questions in an appropriate manner, and not randomly selecting answers. Participants resided in Australia (n = 401), China (n = 1), Indonesia (n = 1), Japan (n = 1), Lebanon (n = 1), Russia (n = 1), Sri Lanka (n = 1), Switzerland (n = 1), and USA (n = 2). Two participants did not disclose where they were residing.

For study two, the total sample comprised five male participants from the Community Forensic Mental Health Service (CFMHS). Participants were aged between 23 and 49 (M = 36.50; SD = 10.76). One participant from CFMHS was excluded from the study as they refused to complete the full interview and thus complete data was not collected.

6.8 Data Preparation and Analysis Methods

The following section explores the data entry and analyses processes used for both empirical studies.

6.8.1 Data Preparation and Analyses for Empirical Study One: Exploring Predictors of Aggressive Intrusive Thoughts and Aggressive Scripts: Similarities and Differences in Phenomenology

6.8.1.1 Data Inspection

Data collected via Qualtrics was uploaded into IMB SPSS (Statistical Package for Social Sciences) version 27 for statistical analyses. Preliminary data inspection revealed that five items were missing from the survey across three variables (one item from OBQ-20; two items from MCAA, and two items from TCQ) due to administration error (n = 223). The survey was amended to include all missing items, and the amended survey was used in all subsequent data collection. Once data collection was completed and an additional 237 participant responses were recorded (N = 460), an Expectation-Maximisation (EM) algorithm was applied to the data set to impute the missing item scores from the initial survey. The utilisation of an EM algorithm for the missing items was justified as Little's MCAR test indicated that the data was Missing Completely at Random (MCAR): [OBQ-20; χ^2 (68, N = 460) = 57.98, p = .80; MCAA; χ^2 (49, N = 460) = 532.12, p = .97; and TCQ; χ^2 (68, N = 460) = 86.97, p = .06]. A missing values analysis was performed on the entire data set and this revealed that several scales also contained missed data. Little's MCAR tests were performed on these scales which indicated that data was MCAR, and thus missing data was imputed using the EM algorithm.

Further data inspection revealed that several scales were significantly skewed, which is a common trend in non-clinical samples. Transformations on skewed scales were

performed to normalise the distributions, however, some of the scales remained skewed. The assumptions for regression analyses were met. Further details of the analytical procedure in empirical study one is detailed in the following chapter.

6.8.1.2 Main Analyses

Correlational analyses, using Pearson's correlation coefficient, were conducted to analyse the association between variables. Four, two step regression analyses were conducted on the predictors of a history of aggressive behaviour, obsessive-compulsive symptoms, aggressive script rehearsal, and AITs. The regression analyses also assessed the unique contribution of anger rumination, violence supportive beliefs, ego-dystonicity, thought control, obsessive beliefs, and self-ambivalence have on the aforementioned predictors. The regression analyses allowed for depression, anxiety, and stress to be controlled in these relationships.

Examination of the regression analyses identified that certain relationships indicated a suppression effect had occurred, as the direction of the relationships were contrary to prior research (e.g., association between OBQ and QUIT was negative). Repeated regression analyses were conducted, excluding each variable in the model to determine which factors were causing the suppression effect.

6.8.2 Analyses for Empirical Study Two: Exploring the Experiences of Aggressive Intrusive Thoughts and Aggressive Scripts in an OCD and Forensic Sample - A Case Study

Qualitative analysis for study two involved the use of inductive thematic analysis on the interview transcripts, across both sample groups. As highlighted by Braun and Clarke (2006), inductive or 'bottom up' thematic analysis, involves identifying themes that are

derived from the data, as opposed to a theoretical or analytic interest guiding the identification of themes (i.e., deductive or 'top down' thematic analysis).

Interview audio recordings were transcribed user Otter.ai software. Transcripts were reviewed approximately four times by the student researcher, and errors in transcriptions corrected accordingly. Transcripts were then uploaded to NVivo qualitative data analysis software package. Raw psychometric data collected during interviews were entered into an Excel spreadsheet by the student researcher. The data set were then uploaded into SPSS for analysis.

Before codes were established, the student researcher reviewed the transcripts and developed a reflective journal noting any preliminary themes, opinions, biases, or processes identified during the interview stage. This allowed the student researcher to transparently note their experiences of the interviews and interactions with participants that may influence coding and theme development. Transcripts were coded by the student researcher and last author (MN), and the supervisory team was consulted frequently to discuss coding options and processes. Once initial codes were generated on all transcripts, themes were established. The student researcher consulted the supervisory team to review and define generated themes. Themes were then refined and named which were included in the final empirical study paper.

6.8.2.1 Reflective Statement

To ensure transparency is maintained throughout the research process, it was deemed necessary to develop a reflective journal throughout the data collection and analysis phase. This would allow the student researcher to explore their role, any biases they encountered which in turn may have influenced the data collection processes and overall findings of the study. A reflective statement is provided below by the student researcher.

My interest in this study developed out of clinical curiosity in being able to differentiate, with confidence, aggressive scripts, which are commonly reported in forensic samples, from AITs, a common symptom of OCD. My understanding of the two phenomena were that aggressive scripts are anecdotally assumed to be ego-syntonic, and are consistently associated with aggressive behaviour, whereas AITs are widely accepted as thoughts that are highly ego-dystonic and have no relationship with overt acts of aggression or violence. At the time of the study development, I was completing a doctorate placement in a forensic service which became a forensic clinical setting that proved useful as a recruitment strategy for the study. By being a member of staff, I became familiar with the processes of the service, the clientele, and risk assessment considerations. Due to COVID-19 restrictions in Victoria, whilst completing my placement with the service, I was unable to begin data collection due to logistic and group program rescheduling issues. This avoided my engagement in dual roles as both a student clinician and PhD researcher, which was beneficial. This may then have influenced participants to be more forthcoming with their responses and experience, given I was not directly associated with the service as a clinician during the data collection phase. Despite this, it was imperative the participants were aware of the boundaries to the research interviews, including the limits to confidentiality and duty to warn processes - these boundaries were made apparent at the outset of each interview. Participants were also informed that any content discussed during the interview would not be described to their treating clinicians, and only included in the analysis and report of the study.

The level of detail provided by participants varied across interviews. Some participants were willing to share detailed experiences of their aggressive thinking including the antecedents, consequences, and details of the content of these thoughts. However, occasionally some participants were more reserved with their responses, which would require more direct prompting and questioning from myself. I found myself concerned with not

wanting the participants to feel they had to share things there were uncomfortable with, but also, I wanted to be able to fully understand their experiences for the purposes of the data collection. Reflecting on my interview style, my questions for participants may have been too complex or require time to think deeply about before responding, which was evidenced by some participants taking their time to respond. This may have impacted on the data collection process as participants may have been given more time to answer questions, which left less time to explore other details of their experiences due to time constraints of the interview.

CHAPTER 7 – EMPIRICAL RESEARCH PAPER ONE

7.1 Preamble to Empirical Research Paper One

This chapter presents the first empirical research study of this thesis. Empirical study one addresses the second thesis aim, to elucidate the similarities and differences in the phenomenology of AITs and aggressive script rehearsal. Extending from questions raised from the critical review in chapter four, which highlighted that although there are similarities in features between AITs and aggressive scripts, some features require further investigation (e.g., level of intrusiveness, ego-dystonicity, associated beliefs) and issues with measurement need to be considered. This paper is one of the first to measure AITs and aggressive scripts concurrently, and although a non-clinical sample has been used, inferences made from the study's findings have implications for the measurement and assessment of AITs and aggressive scripts.

This research paper was intended to provide an empirical investigation of commonly used OCD measures, and aggression-related measures with the aim to identify differentiating features between AITs and aggressive scripts. This paper provides a basis for exploring the second and third thesis aims, which are explored in empirical research paper two in chapter eight.

Empirical study one, *Exploring Predictors of Aggressive Intrusive Thoughts and Aggressive Scripts: Similarities and Differences in Phenomenology* has been published in Aggressive Behavior. Aggressive Behavior is a peer-reviewed journal that publishes empirical papers that focus on the factors underlying or influencing aggressive behaviour, with a current impact factor of 3.047 (Clarivate, 2021).

Fernandez, S. J., Daffern, M., Moulding, R. & Nedeljkovic, M. (2022). Exploring Predictors of Aggressive Intrusive Thoughts and Aggressive Scripts: Similarities and Differences in Phenomenology. *Aggressive Behavior.*1-3. http://doi.org/10.1002/ab.22061

7.2 Author Indication Form for Empirical Research Paper One

Swinburne Research

Authorship Indication Form

For PhD by Publication candidates

NOTE

This Authorship Indication form is a statement detailing the percentage of the contribution of each author in each published '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 published paper to be included in your thesis.

DECLARATION

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

Exploring predictors of Aggressive Intrusive Thoughts and Aggressive Scripts: Similarities and Differences in Phenomenology

First Author

Name: Stephanie Jane Fernandez Signature:

Percentage of contribution: 85 % Date: 20/02/2023

Brief description of contribution to the 'paper' and your central responsibilities/role on project:

Reviewing literature, research design, data collection, statistical analysis, prepared manuscript

Second Author

Name: Michael Daffern Signature:

Percentage of contribution: 5 % Date: 21/02/23

Brief description of your contribution to the 'paper':

Supervision on research design, critically reviewed and edited manuscript drafts

Third Author

Name: Richard Moulding Signature:

Percentage of contribution: 5 % Date: 20 / 02 / 2023

Brief description of your contribution to the 'paper':

Supervision on research design, assistance with statistical analysis, critically reviewed and edited manuscript

Fourth Author

Name: Maja Nedeljkovic Signature:

Percentage of contribution: 5 % Date: 20 / 02/ 2023

Brief description of your contribution to the 'paper':

Primary supervision at all stages, critically reviewed and edited manuscript

Principal Coordinating Supervisor:

Name: Maja Nedeljkovic Signature:

Date: 20 / 02 / 2023

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

Exploring Predictors of Aggressive Intrusive Thoughts and Aggressive Scripts: Similarities and Differences in Phenomenology

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Acknowledgements

Funding: The first author received funding support from the Australian Government in the form of an Australian Government Research Training Program Scholarship

Declarations of interest: none

Declaration: This manuscript has not been published elsewhere and has not been submitted simultaneously for publication elsewhere.

Data availability: The data that support the findings of this study are available from the corresponding author upon reasonable request.

Abstract

Experiencing a thought about harming or injuring another person is commonly reported by the general population. Aggressive intrusive thoughts (AITs) and aggressive scripts are two constructs commonly used to define the experience of thinking about harming another person. However, they are generally investigated separately and with two significantly different population groups; respectively, individuals with Obsessive Compulsive Disorder and people with a history of violent behaviour. AITs and aggressive scripts are assumed to have very different implications for violence risk assessment, but conceptual overlap and an absence of empirical research renders this assumption premature. Using a battery of self-report measures, this study aimed to investigate the differential predictors of AITs and aggressive script rehearsal in a non-clinical sample. Additionally, using regression analyses, the predictors of self-reported aggressive behaviour were explored in a sample of 412 adults (73% females; M_{age} = 31.96 years, *SD* = 11.02). Violence supportive beliefs and frequency of anger rumination predicted the frequency of aggressive script rehearsal, and aggressive script rehearsal, anger rumination, and violence supportive beliefs predicted a history of aggressive behaviour. In contrast, obsessive beliefs were predictive of AITs, and only AITs were related to ego-dystonicity. Both AITs and aggressive script rehearsal were related to the use of thought control strategies. These findings support the contributions that maladaptive beliefs have in the experience of aggressive scripts and AITs. Beliefs about violence, a history of aggressive behaviour, and ego-dystonicity appear to differentiate aggressive scripts from AITs.

Keywords: Aggressive intrusive thoughts; aggressive scripts, aggressive behaviour, obsessive beliefs, ego-dystonicity

Exploring Predictors of Aggressive Intrusive Thoughts and Aggressive Scripts: Similarities and Differences in Phenomenology

The outcomes associated with thoughts about inflicting harm or injury to others differ significantly depending on the population group that experience these thoughts. In some instances, aggressive thoughts are associated with aggressive acts and violence (Gilbert & Daffern, 2017; Grisso et al., 2000), and in other cases, individuals will go to significant lengths to prevent harm occurring to others (Pascual-Vera et al., 2019; Rowa & Purdon, 2003). In particular, in people diagnosed with Obsessive Compulsive Disorder (OCD), aggressive intrusive thoughts (AITs) are purportedly *not* associated with subsequent acts of aggression (Veale et al., 2009), whereas in offender populations thoughts with similar content, typically referred to as aggressive scripts, *are* associated with aggressive behaviour[5] (Daff et al., 2015). Historically, these phenomena have been investigated separately and within these two diverse population groups, and the associated features of these two constructs have not been compared, conceptually or empirically. Such an examination is overdue for improving risk assessment and intervention by clinicians.

AITs are a common feature of OCD, with approximately 58% experiencing aggressive obsessions as one of their main symptoms (N = 485; Pinto et al., 2008b); however, the unwanted, distressing, and ego-dystonic (i.e., contradict an individuals' sense of self) features of these thoughts are said to protect against acts of violence (Veale et al., 2009). Rather, AITs induce significant fear and apprehension in those who experience them, influencing compulsive behaviours that reduce one's distress and avert the perceived

[5] The authors acknowledge that AITs are symptoms that appear in other psychiatric conditions such as anxiety disorders and psychotics disorders (see: Abramowitz et al., 2003; Grisso et al., 2000). However, for the scope of this study, only AITs relevant to OCD have been included. The rationale for not including other psychiatric conditions alongside OCD, particularly psychotic disorders, was due to differences in the appraisal process involved during aggressive thought experiences (see: Clark, 2005; Link et al., 1997).

consequences (e.g., ensuring loved ones are safe and not at risk of harm; Rachman, 1997; Veale et al., 2009). Contrastingly, aggressive scripts are defined as thoughts or daydreams about physically harming or injuring another person and they are used to guide behaviour and to regulate emotions (Hosie et al., 2021). When studied in violent offender samples, aggressive script rehearsal have been shown to relate to aggressive behaviour; specifically, the more one rehearses their aggressive scripts in mind, the more likely they are to act aggressively (Gilbert & Daffern, 2017).

Cognitive Models of Aggressive Intrusive Thoughts and Aggressive Scripts

According to the cognitive behavioural model of OCD, AITs are interpreted through beliefs that cause these thoughts to be viewed as abhorrent, dangerous, or threatening (Moulding et al., 2011; Rachman, 1997; Radomsky et al., 2014). These beliefs include thought action fusion—that a thought about harming another person is equivalent to the imagined action (e.g., 'thinking about hurting my loved ones is the same as actually hurting them'; Shafran & Rachman, 2004), and feared self beliefs, where the individual believes they possess bad, dangerous, or immoral characteristics as a result of experiencing unwanted thoughts (e.g., 'I must be a dangerous person for thinking about harming another person'; Aardema & O'Connor, 2007; Jaeger et al., 2021; Moulding et al., 2011; Shafran & Rachman, 2004). Both Veale et al. (2009) and Fairbrother et al. (2022) suggest that there should be no concern regarding whether a person with OCD will carry out their aggressive intrusions, as they are highly ego-dystonic to the individual and are associated with significant distress and trepidation.

Research exploring aggressive script rehearsal is based upon social-cognitive developmental models, like the General Aggression Model (GAM) and Script Theory, which suggest that once aggressive scripts are created, either by observing aggression or acting aggressively, they are maintained through positive beliefs about aggression (Bushman &

Anderson, 2002; Huesmann, 1998). These beliefs include attitudes that endorse aggressive behaviour (e.g., 'Sometimes you have to fight to keep your self-respect'; Mills et al., 2002, p. 249), and these beliefs have been found to associate with aggressive scripts rehearsal and aggressive behaviour, and are common in some offender populations (Gilbert & Daffern, 2017; Huesmann, 1988; Kelty et al., 2011). Further, alternative cognitive models, such as the Multiple Systems Model (Denson (2013), propose that understanding how and why individuals engage in 'angry rumination' (a related but not synonymous construct; Hosie, Simpson, et al., 2022) may identify the precipitants of aggressive behaviour (Denson, 2013). As emphasised by Hosie, Simpson, et al. (2022), anger rumination is concerned with perseverative thinking over experiences of anger, which may also include ruminations regarding past provocations. However, Hosie, Simpson, et al. (2022) argue that anger rumination that includes thoughts of retaliation (i.e., one preparedness and plans for revenge) is synonymous with some aggressive scripts (although some other aggressive scripts are rehearsed outside of the context of angry rumination, for instance, in a more pleasurable planful state).

The Appraisal Process of AITs and Aggressive Scripts

Aggressive Intrusive Thoughts

Current understandings of AITs in OCD highlight how beliefs underly the appraisal of these intrusions (Rowa & Purdon, 2003). For example, Rowa and Purdon (2003) found that AITs are associated with beliefs of responsibility and the need to control thoughts (N = 64). When explained in the context of experiencing AITs, these beliefs: (1) influence the preoccupation with one's responsibility over the content of the thought (e.g., 'I must ensure my loved ones are safe from harm'), and (2) influence one to believe they should control their thoughts (e.g., 'I must not have thoughts with abhorrent contents and should control my

thoughts'). These forms of appraisal have been found to promote neutralising or thought control behaviours (e.g., distraction strategies; or checking) that are dysfunctional, and that in turn maintain the experience of Obsessive Compulsive (OC) symptoms like AITs (Amir et al., 1997; Jacoby et al., 2015) .

Within OCD, the content of the intrusive thought is experienced as ego-dystonic to the individual, and the initial appraisal of the thought includes a sense of disbelief about thinking unpleasant or unacceptable content (Lee & Kwon, 2003; Purdon et al., 2007). Purdon et al. (2007) found that in an OCD sample, experiencing thoughts classed as repugnant was related to these thoughts being experienced as ego-dystonic and inconsistent with one's morals. Purdon et al. (2007) also identified that intrusive thoughts initially appraised as ego-dystonic can, over time, become accommodated into one's self concept and be re-appraised as ego-syntonic. Similarly, Bhar and Kyrios (2007) identified that individuals who demonstrate ambivalence about their sense of self, morality, or lovability (e.g., 'I question whether I am a moral person'; Bhar & Kyrios, 2007, p. 1855) are likely to experience obsessional thoughts and behaviours. Beliefs concerning self-perceptions, including the feared self, have been proposed to influence the appraisal and reoccurrence of AITs. It is highlighted that individuals with feared self beliefs are likely to perceive themselves as "immoral", "dangerous" or "insane" for experiencing thoughts with unacceptable contents (Aardema et al., 2017; Ferrier & Brewin, 2005).

Aggressive Scripts

Beliefs related to aggressive script rehearsal are centred on the acceptability of the imagined aggressive behaviours (Gilbert & Daffern, 2017). In a non-clinical sample of students and community participants, Kelty et al. (2011) found that individuals who endorse violent and aggressive beliefs were likely to rehearse aggressive scripts and engage in aggressive behaviour. The maintenance of aggressive scripts is also moderated by one's past

experiences with aggression and violence, suggesting that a person's life history with aggressive behaviours (either through observation or direct experiences) is highly predictive of a person's aggressive tendencies (Gilbert & Daffern, 2017).

Fewer studies have focused on the role an individual's subjective experience has in aggressive script rehearsal and their appraisal. Hosie et al. (2021) investigated the emotional sequalae associated with aggressive script rehearsal in a sample of incarcerated offenders (*N* = 131). The most common emotion associated with aggressive script rehearsal was anger, followed by hate, fear, sadness, confusion, and annoyance. It was also identified that offenders with a greater history of aggressive behaviour were more likely to experience feelings of excitement when rehearsing aggressive scripts, when compared to offenders with less significant histories of aggression. These findings highlight variability in the emotional reactions associated with aggressive script rehearsal, and also the relationship between aggressive script rehearsal and aggressive behaviour.

Neutralisation and Thought Control Strategies

There is limited research that has examined the thought control methods employed to manage AITs or aggressive scripts, specifically. Studies of OCD have found that a range of control strategies can be employed to manage unacceptable intrusive thoughts, such as AITs, including self-punishment, avoidance, and seeking reassurance (Belloch et al., 2004; Jacoby et al., 2015; Lee & Kwon, 2003). However, the effectiveness of these control strategies has been questioned, as research suggests that certain methods (e.g., self-punishment) can increase the severity and frequency of intrusive thoughts (Jacoby et al., 2015). With regards to aggressive scripts, Nagtegaal et al. (2006) found that in an undergraduate student sample (N = 72), in which 60% reported rehearsal of aggressive scripts, distraction and reappraisal techniques were the most common thought control method utilised. Nagtegaal et al. (2006) also found that self-punishment techniques were associated with hostility and aggression.

These findings across intrusive thought and aggressive script research highlight that different thought control strategies may be utilised to manage different thought experiences. However, the research also indicates that certain methods may have negative implications on the thought experience, and one's affect.

Current Study

To our knowledge, no study has concurrently examined the relationships between cognitive predictors of AITs and aggressive script rehearsal, nor have features of these phenomena been empirically investigated in the same study. As such, in the present study, cognitive predictors related to OCD symptoms, and beliefs related to violent attitudes and aggressive behaviour, were investigated. The contributions of the feared self, ego-dystonicity, and thought control strategies were also examined. It was hypothesised that ego-dystonicity, self-ambivalence, and the fear of self would predict AITs. The association between thought control strategies with AITs and aggressive scripts was explored. It was hypothesised that violent attitudes, anger rumination, and a history of aggressive behaviour would predict aggressive script rehearsal. It was hypothesised that general OCD beliefs and thought control strategies would predict the experience of OC symptoms. It was also hypothesised that anger rumination and violent attitudes would predict past aggressive behaviour. Given the relationship that exists between OCD and depressive symptoms, and the influence that depression and anxiety can have on aggressive thoughts (Ching et al., 2017), depression, anxiety, and stress were controlled for the in the present study.

Method

Participants

The original sample comprised 460 participants, and after validity checks were conducted, the final sample included 412 English-speaking non-clinical subjects aged

between 18 and 69 (M_{age} = 31.96; *SD* = 11.02; 73% females) who did not fail attentional control questions and completed all questionnaires. Majority of participants resided in Australia (*n* = 401), with the remaining in other countries (*n* = 9). Two participants did not disclose where they were residing. Review of clinical measures (i.e., Depression, Anxiety Stress Scale – 21; Obsessive Compulsive Inventory-Revised) indicated that approximately 31% of participants experienced moderate to severe levels of stress symptoms. Depression, anxiety, and OC symptoms were within normal range.

Participants were recruited using an undergraduate psychology research experience program from an Australian University. Students participated in the study in exchange for course credit. Participants were also recruited through advertisements on social media (Gumtree, Whirlpool, Twitter, and Reddit), and additional participants were obtained via "snowball" methods initiated by those who participated. Participants recruited via social media streams were offered the opportunity to enter into a draw for one of four AUD$100 gift vouchers.

Measures

Anger Rumination Scale: Thoughts of Revenge Subscale (ARS; Sukhodolsky et al., 2001). The present study only utilised the Thoughts of Revenge subscale of the ARS, which measures thoughts about anger and retribution after provoking situations. Participants rate items such as "I have long living fantasies of revenge after the conflict is over" on a 4-point Likert scale ranging from 1 (almost never) to 4 (almost always). The original ARS has demonstrated adequate internal consistency (αs = 0.72 – 0.86) and good test-retest reliability (*r* = 0.77) for a one month period (Sukhodolsky et al., 2001). In the current study, the Thoughts of Revenge subscale demonstrated good internal consistency (α = 0.75).

Depression Anxiety Stress Scales Short Form (DASS-21; Lovibond & Lovibond, 1995). The DASS is a 21-item self-report measure that assess emotional states of depression,

anxiety, and stress symptoms, and comprises three subscales; Depression, Anxiety, and Stress. Participants rate items such as "I felt that life was meaningless" with reference to the past week, on a 4-point Likert scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time). In the current study, the DASS-21 demonstrated excellent internal consistency (α = 0.94), and good internal consistency across the three subscales (αs = 0.86 – 0.92).

Ego-Dystonicity Questionnaire- Reduced Version (EDQ-R; Belloch et al., 2012). The EDQ is a 27 item self-report measure that assesses the extent to which one believes the content of their thoughts is inconsistent with their self-beliefs, values, and moral attitude. For the present study, the EDQ was modified to ask participants to focus on their most upsetting 'aggressive intrusive thought' whilst providing their ratings. Participants rate items such as that the "Thought is immoral" on a 7-point Likert scale ranging from 1 (strongly agree) to 7 (strongly disagree). The EDQ-R demonstrated good internal consistency in the present study (αs = 0.94).

Fear of Self Questionnaire (FSQ; Aardema et al., 2013). The FSQ is an eight item self-report measure that assess beliefs pertaining to covert aspects of one's personality. Participants rate items such as "I often question my own character" on a 6-point Likert scale ranging from 1 (strongly agree) to 6 (strongly disagree). In the current study the FSQ-8 demonstrated good internal consistency (α = 0.88).

Life History of Aggression (LHA; Coccaro et al., 1997)**.** The LHA, as revised by Coccaro et al. (1997), is a self-report measure that assesses the number of occurrences of aggressive behaviours since the age of 13. The present study only utilised the Aggression subscale which measures overt experiences of aggressive behaviour. Participants rate items such as "Temper Tantrums" on a 5-point Likert scale ranging from 0 (no occurrences) to 5

(more events than can be counted). In the current study, the Aggression subscale demonstrated good internal consistency (α = 0.79).

Measures of Criminal Attitudes and Associations (MCAA; Mills et al., 2002). The complete MCAA consists of a two-part self-report questionnaire, comprising Violence, Entitlement, Antisocial Intent, and Associates subscale. For the present study only 13 items pertaining to the Violence subscale were used, where items such as "There is nothing wrong with beating up someone who asks for it" are rated on a dichotomous scale of agree/disagree. In the current study, the subscale of Violence demonstrated good internal consistency (α = 0.81).

Obsessive Beliefs Questionnaire (OBQ-20; Moulding et al., 2011). The OBQ-20 is a short form of the Obsessive Beliefs Questionnaire ***(OCCWG, 2005)***. A 20-item self-report measure, the OBQ assesses four obsessive beliefs identified through factor analyses: (1) Threat, (2) Responsibility, (3) Importance of Thoughts, and (4) Perfectionism. Participants rate items such as "I should be upset if I make a mistake" on a 7-point Likert scale ranging from 1 (Disagree very much) to 7 (Agree very much). In the current study, the OBQ-20 demonstrated excellent internal consistency (α = 0.91), and good internal consistency across the four subscales (αs = 0.77 – 0.85).

Obsessive Compulsive Inventory – Revised (OCI-R; Foa et al., 2002). The OCI-R is an 18-item self-report measure that assesses obsessive compulsive symptoms and associated distress associated. Participants rate items such as "I find it difficult to control my own thoughts' on a 4-point Likert scale ranging from 0 (not at all) to 4 (extremely). In the current study, the OCI-R demonstrated good internal consistency across the six subscales (αs = 0.65 – 0.87).

Schedule of Imagined Violence (SIV; Grisso et al., 2000). The original SIV is a set of eight items that explore details relating to participants' experience of a violent thought,

including subsequent aggressive actions. The current study only utilised the frequency item of the SIV ("How often do you have thoughts about hurting or injuring other people?"). Participants rated their responses to this item on a 7-point Likert scale ranging from 0 (never) to 7 (several times a day). This item has been used in prior research to measure the frequency of one's aggressive script rehearsal (Daff et al., 2015; Hosie, Simpson, et al., 2022; Podubinski et al., 2017).

Self-Ambivalence Measure (SAM; Bhar & Kyrios, 2007). The SAM is a 19-item measure of self-ambivalence—which encompasses beliefs regarding uncertainty towards the self, and dichotomous perceptions about one's self-concept. Participants respond to items such as "I have mixed feelings about my self-worth" on a 5-point Likert scale ranging from 0 (not at all) to 4 (agree totally). In the current study, the total scale of the SAM was used, and it demonstrated excellent internal consistency ($\alpha = 0.93$).

Thought Control Questionnaire (TCQ; Luciano et al., 2006). A recent psychometric study conducted by Luciano et al. (2006) confirmed a five-factor model of the TCQ with 16 items, which the current study utilised. Participants rate items such as "I punish myself for thinking the thought" on a 4-point Likert scale ranging from 1 (never) to 4 (almost always). The 16-item version of the TCQ demonstrated adequate internal consistency in the current study ($\alpha = 0.67$).

Questionnaire of Unpleasant Intrusive Thoughts (QUIT; Pascual-Vera et al., 2019). Derived from earlier measures of intrusive thoughts (Clark et al., 2014; Garcia-Soriano et al., 2011; Purdon & Clark, 1993), the QUIT assesses the experience of specific themes of intrusive thoughts. Only the unpleasant content domain was used in the current study, and analyses involving the QUIT only used the frequency item of unwanted aggressive intrusive thoughts. Participants rated their responses on a 7-point Likert scale ranging from 0 (*never*) to 6 (*always*).

Procedure

After participants provided consent, the online questionnaire was administered with responses recorded anonymously via Qualtrics. After completing demographic questions (e.g., age, gender, place of residence, education level) the measures were presented in random order.

Results

Data Inspection

Data analysis was conducted using IBM SPSS Statistics 27 for PC. Preliminary data inspection revealed that five items were missing from the survey across three variables (one item from OBQ-20; two items from MCAA, and two items from TCQ) due to administration error (n = 223). The survey was amended to include all missing items, and the amended survey was used in all subsequent data collection. Once data collection was completed and an additional 237 participant responses were recorded (N = 460), an Expectation-Maximisation (EM) algorithm was applied to the data set to impute the missing item scores from the initial survey. The utilisation of an EM algorithm for the missing items was justified as Little's MCAR test indicated that the data was Missing Completely at Random (MCAR): [OBQ-20; χ^2 (68, N = 460) = 57.98, p = .80; MCAA; χ^2 (49, N = 460) = 532.12, p = .97; and TCQ; χ^2 (68, N = 460) = 86.97, p = .06]. A missing values analysis was performed on the entire data set and this revealed that several scales also contained missed data. Little's MCAR tests were performed on these scales which indicated that data was MCAR, thus missing data was imputed using the EM algorithm. Data inspection identified several scales were significantly skewed, which is a common trend in non-clinical samples. Transformations on skewed scales were performed to normalise the distributions; however, some of the scales remained skewed. The assumptions for regression analyses were met.

Correlational Analyses

Pearson's correlations were performed between variables (Table 1). Obsessive-compulsive symptoms (i.e., OCI-R scores) were related significantly to general OCD beliefs (OBQ), thought control (TCQ), anger rumination (ARS), history of aggressive behaviour (LHA), and violence supportive beliefs (MCAA) at a weak-to-moderate level, with the strongest correlation with general OCD beliefs. Aggressive intrusive thoughts (QUIT) were significantly related to anger rumination, life history of aggression, criminal attitudes, ego-dystonicity (EDQ), feared self beliefs (FSQ), and self-ambivalence (SAM), at a weak-to-moderate level. Aggressive intrusive thoughts related at a weak-to-moderate level with all OCI-R symptom dimensions except for the washing dimension. Aggressive intrusive thoughts related to all dimensions of obsessive beliefs (OBQ), except for the responsibility, and importance/control of thoughts dimension. Aggressive intrusive thoughts related to all dimensions of thought control (TCQ), except for the worry, and social dimensions. Finally, aggressive scripts (SIV) were found to relate in a significant positive direction with a history of aggressive behaviour, anger rumination, and violence supportive beliefs at a moderate level. Aggressive scripts correlated with AITs, feared self-beliefs, and symptom dimensions

Table 2. Pearson's Correlations for all variables

							OBQ					OCI-R								TCQ							
	ARS	DASS	EDQ	FSQ	LHA	MCAA	Total OBQ	1. T	2. R	3. I/C	4. P/U	Total OCI	1. W	2. Ob	3. H	4. C	5. Or	6. N	SAM	Total TCQ	1. D	2. P	3. W	4. R	5. S	QUIT_F	SIV_F
ARS	1																										
DASS	.382**	1																									
EDQ	.058	.250**	1																								
FSQ	.435**	.538**	.233**	1																							
LHA	.390**	.235**	.022	.306**	1																						
MCAA	.417**	.157**	-.042	.206**	.309**	1																					
OBQ																											
Total OBQ	.219**	.523**	.358**	.540**	.145**	.085	1																				
1. Threat	.362**	.551**	.251**	.629**	.272**	.171**	.796**	1																			
2. Responsibility	.065	.328**	.349**	.270**	.091	-.050	.746**	.433**	1																		
3. I/C	.034	.335**	.277**	.352**	-.027	.017	.756**	.478**	.416**	1																	
4. P/U	.225**	.438**	.251**	.458**	.123*	.133**	.839**	.610**	.489**	.505**	1																
OCI																											
Total OCI-R	.466**	.605**	.287**	.536**	.247**	.237**	.528**	.542**	.296**	.359**	.469**	1															
1. Washing	.156**	.275**	.136**	.270**	.101*	.129**	.382**	.333**	.274**	.304**	.304**	.477**	1														
2. Obsessing	.433**	.654**	.201**	.548**	.271**	.207**	.464**	.528**	.256**	.308**	.382**	.783**	.310**	1													
3. Hoarding	.301**	.251**	.194**	.294**	.193**	.178**	.234**	.246**	.121*	.165**	.208**	.659**	.293**	.346**	1												
4. Checking	.267**	.339**	.176**	.323**	.086	.166**	.338**	.357**	.154**	.294**	.268**	.683**	.428**	.428**	.327**	1											
5. Ordering	.393**	.518**	.253**	.422**	.232**	.159**	.470**	.434**	.285**	.278**	.475**	.772**	.380**	.615**	.333**	.419**	1										
6. Neutralising	.254**	.307**	.168**	.335**	.101*	.176**	.358**	.356**	.171**	.276**	.327**	.613**	.326**	.350**	.353**	.356**	.359**	1									
SAM	.376**	.636**	.275**	.753**	.259**	.130**	.638**	.669**	.355**	.415**	.571**	.552**	.253**	.569**	.269**	.286**	.467**	.323**	1								
TCQ																											
Total TCQ	.017	.151**	.187**	.142**	.056	.004	.213**	.170**	.195**	.218**	.102*	.219**	.247**	.181**	.112*	.183**	.162**	.183**	.190**	1							
1. Distract	-.129**	-.154**	.128**	-.182**	-.046	-.023	-.031	-.059	.022	.032	-.076	.002	.124*	-.048	.026	.053	.007	.031	-.153**	.623**	1						
2. Punish	.176**	.389**	.381**	.417**	.132**	.051	.414**	.344**	.246**	.352**	.356**	.403**	.218**	.410**	.183**	.241**	.325**	.270**	.481**	.450**	-.017	1					
3. Worry	.207**	.423**	.132**	.332**	.201**	.095	.302**	.304**	.177**	.229**	.241**	.339**	.156**	.359**	.191**	.218**	.270**	.166**	.408**	.447**	.051	.367**	1				
4. Reappraise	-.092	-.029	-.023	-.021	-.060	-.150**	.004	-.021	.103*	-.030	-.067	-.056	.085	-.076	-.042	-.026	-.041	-.008	-.01	.667**	.293**	.045	.061	1			
5. Social	.019	.040	-.030	.078	.044	.086	.077	.081	.071	.138**	-.018	.104*	.167**	.064	.031	.116*	.032	.132**	.06	.600**	.126*	.127*	.137**	.340**	1		
QUIT	.310**	.280**	.165**	.282**	.142**	.204**	.125*	.258**	-.021	.007	.144**	.302**	.050	.329**	.189**	.112*	.258**	.209**	.281**	-.060	-.103*	.114*	.054	-.119*	-.048	1	

SIV	.485**	.246**	.021	.326**	.426**	.374**	.130**	.272**	.037	-.044	.146**	.333**	.070	.351**	.242**	.124*	.261**	.213**	.249**	-.073	-.077	.112*	.079	-.147**	-.092	.377**	1
Mean	.813	5.53	126.55	25.90	8.90	14.46	69.51	15.98	21.83	3.48	18.78	3.57	1.24	3.79	1.55	1.18	1.72	.854	40.59	33.65	9.94	.635	3.93	7.27	2.80	.660	1.68
Std.	.135	2.27	29.35	10.88	5.69	2.41	21.22	6.34	6.73	.888	7.35	1.23	.913	2.74	.883	.916	.773	.867	16.46	5.26	2.40	.143	1.29	2.06	.303	1.07	1.13
Min	.600	0	27	8	0	12	19.71	5	5	2.24	4.71	0	0	0	0	0	0	0	4	19.30	4	.480	2	3	2	0	1
Max	1.20	10.95	189	53	23	23.25	131.02	34	35	5.83	35	7.07	3.32	12	3.46	3.46	3.46	3.32	73	51.85	16	1.08	8	12	4	5	7

Note. N = 410. *$p < 0.05$ **$p < 0.01$ ***$p < 0.001$.

ARS = Anger Rumination Scale; DASS = Depression Anxiety Stress Scale; EDQ = Ego Dystonicity Questionnaire; FSQ = Fear of Self Questionnaire; LHA = Life History of Aggression; MCAA = Measure of Criminal Attitudes and Associates; OBQ = Obsessive Beliefs Questionnaire; OCI-R = Obsessive Compulsive Inventory-Revised; SAM = Self Ambivalence Measure; SIV = Schedule of Imagined Violence - Frequency; TCQ = Thought Control Questionnaire; QUIT = Questionnaire of Unpleasant Intrusive Thoughts - Frequency

of the OCI-R except the washing dimension, at a weak-to-moderate level. All dimensions of the OBQ related to aggressive scripts at a weak-to-moderate level, except the responsibility, and importance/control of thoughts dimension. Aggressive scripts related to all dimensions of thought control, except for the distraction, worry, and social dimensions.

Regression Analyses

Regression analyses are presented in Table 2. Depression, anxiety, and stress were entered as a total at stage 1, and all other variables at stage 2. Regression analyses examined the predictors of AITs (QUIT) and aggressive script rehearsal (SIV). The regression analysis also examined the predictors of life history of aggression, and OC symptoms. The assumptions for regression analyses were met.

Examining the differential predictors of aggressive intrusive thoughts (QUIT), the DASS at stage 1 explained 8% of the variance in QUIT, and the remainder 10 predictors explained an additional 15%, F change (10, 398) = 7.85, $p < .001$. In the final model, the SIV , EDQ, OBQ, and TCQ were all significant predictors of QUIT. Examining predictors of aggressive script rehearsal (SIV), the DASS explained 6% of the variance in aggressive scripts, with the additional 10 predictors explaining an additional 32% of the variance in the SIV after controlling for psychological well-being, F change (10, 398) = 20.73, $p < .001$. In the final model the ARS, LHA, QUIT, MCAA, and TCQ were all significant predictors of aggressive script rehearsal. Examination of regression weights identified that the influence of obsessive beliefs on QUIT was negative. This result indicated a suppression effect, as the OBQ is a univariate positive predictor of QUIT frequency. To identify which variables were suppressing the OBQ, repeated regression analyses were conducted where each variable in the model was excluded in turn from the analysis. These analyses indicated that the DASS

Table 3. Beta coefficients (t statistics) for regression analyses predicting AITs, Aggressive scripts (SIV), obsessive-compulsive symptoms (OCI), and life history of aggression (LHA).

	QUIT		SIV		OCI-R		LHA	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
DASS	0.28 (5.89***)	0.089 (1.42)	0.253 (5.27***)	-0.030 (-0.53)	0.607 (15.44***)	0.296 (6.30***)	0.232 (4.81***)	0.051 (0.82)
ARS		0.059 (1.01)		0.233 (4.54***)		0.187 (4.16***)		0.154 (2.67**)
EDQ		0.126 (2.63*)		-0.02 (-0.45)		0.077 (2.03*)		-0.026 (-0.54)
FSQ		0.029 (0.41)		0.107 (1.68)		0.098 (1.77)		0.092 (1.31)
MCCA		0.064 (1.28)		0.120 (2.69**)		0.036 (0.92)		0.137 (2.77**)
OBQ		-0.152 (-2.46*)		-0.038 (-0.69)		0.201 (4.20***)		-0.032 (-0.52)
SAM		0.148 (1.89)		-0.041 (-0.58)		0.009 (0.14)		0.06 (0.77)
TCQ		-0.092 (-1.98*)		-0.101 (-2.44*)		0.108 (2.99**)		0.061 (1.32)
OCI-R		0.098 (1.53)		0.125 (2.18*)		-		-0.036 (0.57)
LHA		-0.068 (-1.36)		0.214 (4.87***)		-0.023 (-0.57)		-
SIV		0.255 (4.68***)		-		0.095 (2.19*)		- 0.263 (4.87***)
QUIT		-		- 0.204 (4.68***)		0.06 (1.54)		-0.067 (-1.36)
R^2	0.078	0.230	0.064	0.384	0.369	0.530	0.054	0.241
ΔR^2		- 0.152**		0.321***		0.161***		0.187***

Step 1: DASS; Step 2: ARS, EDQ, FSQ, MCAA – Violence, OBQ, SAM, TCQ, OCI, SIV. Standardised beta coefficients; t statistics in parentheses.
Note. *$p < 0.05$ **$p < 0.01$ ***$p < 0.001$.
Note. N = 410. ARS = Anger Rumination Scale; DASS = Depression Anxiety Stress Scale; EDQ = Ego Dystonicity Questionnaire; FSQ = Fear of Self Questionnaire; LHA = Life History of Aggression; MCAA = Measure of Criminal Attitudes and Associates-Violence Subscale; OBQ = Obsessive Beliefs Questionnaire; OCI-R = Obsessive Compulsive Inventory-Revised; SAM = Self Ambivalence Measure; SIV = Schedule of Imagined Violence – Frequency; TCQ = Thought Control Questionnaire; QUIT = Questionnaire of Unpleasant Intrusive Thoughts – Frequency

OCI-R, FSQ and SAM were suppressing the OBQ, with obsessional beliefs non-significantly associated with QUIT ($\beta = .003$, $p > .05$) when they were removed from the equation.

Repeating the analysis for OC symptoms, the DASS explained 37% of the variance and a further 16% of the variance was predicted by the other variables, F change (10, 398) = 13.60, $p < .001$. In the final model, the DASS, OBQ, ARS, TCQ, SIV, and the EDQ were significant predictors. For a history of aggressive behaviour, the DASS explained 5% of the variance, and the additional 10 predictors were entered at stage 2, the total variance explained by the entire model was 24%, F (11, 398) = 11.47, $p < .001$. The inclusion of 10 predictors explaining an additional 19%, F change (10, 398) = 9.80, $p < .001$. Overall, the SIV, ARS, and the MCAA were significant.

Discussion

This study investigated the association between different OCD-relevant beliefs, self-themes, and aggression-related beliefs with AITs and aggressive script rehearsal. As hypothesised, general OCD beliefs and thought control strategies predicted OC symptoms. Unexpectedly, anger rumination and the frequency of aggressive script rehearsal also predicted OC symptoms. It was also found, as hypothesised, that ego-dystonicity predicted the experience of AITs. Contrary to expectations, the feared self was not identified as a unique predictor of AITs or aggressive script rehearsal. As hypothesised, violence supportive beliefs, a history of aggressive behaviour, anger rumination, and the use of thought control strategies predicted aggressive script rehearsal. It was also found, as hypothesised, that anger rumination, violence supportive beliefs, and the frequency of aggressive script rehearsal predicted a history of aggressive behaviour. No relationship was found between aggressive scripts and ego-dystonicity. These findings are unpacked in detail below.

Firstly, and consistent with prior research (Moulding, Coles, et al., 2014; Purdon & Clark, 1994b), general OCD beliefs and thought control strategies were found to predict OC symptoms. Cognitive appraisal models of OCD postulate that maladaptive beliefs influence the appraisal of intrusive thought experiences (Radomsky et al., 2014) which motivate the use of compulsive behaviours, inadvertently perpetuating the intrusive thoughts (Belloch et al., 2004; Brakoulias et al., 2014; Purdon & Clark, 1993; Salkovskis, 1985; Wheaton et al., 2010) The current study found significant correlations between the thought control strategies of punishment and worry with OC symptoms, suggesting that certain thought control strategies may be less effective than others at controlling the reoccurrence of symptoms; similar findings have been highlighted by Jacoby et al. (2015) who found that using self-punishment as a means of controlling intrusive thoughts, was associated with frequent repugnant intrusive thoughts. Contrary to expectations, at a multivariate level, anger rumination and aggressive script rehearsal were also found to predict the experience of OC symptoms. An explanation for this finding may concern the measurement of anger rumination and aggressive script rehearsal, which enquires generally about aggressive thinking and may share similarities to measurements of AIT in OCD. It is possible that current measurements of anger rumination, aggressive script rehearsal, and AITs in OCD are unable to clearly differentiate the phenomena, and thus interrelationships across constructs are being identified.

Secondly, ego-dystonicity and self-themes including the feared self and self-ambivalence, were examined. At a univariate level, ego-dystonicity, feared self beliefs, and self-ambivalence all were significantly related to the experience of AITs. However, at a multivariate level, ego-dystonicity was found to be the only self-related predictor of AITs. This aligns with previous research on ego-dystonicity (Purdon et al., 2007), where experiencing thoughts of harming another person that do not reflect one's intentions, are likely to be interpreted as abhorrent to the self (Lee & Kwon, 2003). Obsessive beliefs were a

positive predictor of AITs only when certain measures (e.g., DASS, OCI-R, FSQ, and SAM) were removed from the model, with analyses indicating a suppression effect due to these variables. One explanation for this finding is that by controlling for depression, anxiety, and OC symptoms, the relationship between AITs and obsessive beliefs no longer identifies the symptomatic elements of intrusive thought experiences. It is unclear how the self-measures of FSQ and SAM influenced the suppression effect, however one may speculate that these measures may contain anxiety related elements, and when controlled for, the relationship between AITs and obsessive beliefs is no longer able to identify these elements. As these analyses involved a post-hoc exploration it is therefore essential that these findings be confirmed in further studies of AITs and obsessive beliefs.

Thirdly, our results suggest an association between the frequency of aggressive script rehearsal and anger rumination, violence supportive beliefs, a history of aggressive behaviour, thought control strategies, AITs, and contrary to expectations, also OC symptoms. No relationship was found between aggressive script rehearsal and ego-dystonicity. The current findings support the notion that the presence of violence supportive beliefs and prior acts of aggression increase the likelihood of aggressive script rehearsal (Hosie, Simpson, et al., 2022; Kelty et al., 2011). Contrary to expectations, thought control strategies were found to have a negative association with aggressive script rehearsal when considered alongside other predictors. This may suggest that the use of thought control strategies for aggressive scripts may act as a protective factor by distracting or occupying one's thoughts on something other than aggression. This aligns with Nagtegaal et al. (2006) who found that distraction, when used as a control strategy, reduced the likelihood of aggressive behaviour in participants examined. Additionally, the association between AITs and aggressive script rehearsal can be explained by similarities in measurement instruments. Both measures of AITs and aggressive script rehearsal ask respondents whether they have ever experienced a

thought of harming another person. Although it is asked in different ways in instruments used to measure phenomena thought to be related to OCD and aggressive behaviour, the overarching content appears to be the same and extant instruments may not have been designed with consideration given to differences in phenomena (AITs and aggressive scripts) across different populations. This appears to demonstrate a critical issue with the measurement of these constructs, and a refinement of these measurement instruments is required. Based on the findings of this study, AITs and aggressive script rehearsal may be differentiated by a history of aggressive behaviour, endorsement of violence supportive beliefs, and ego-dystonicity. Further clinical explorations of these factors is warranted for the purposes of risk assessment and phenomenological understandings of these constructs.

The lack of association between ego-dystonicity and aggressive script rehearsal may be explained by the anecdotal assumption that individuals with a history of aggressive behaviour or who endorse violence supportive beliefs, may experience aggressive thoughts as ego-syntonic (i.e., consistent with one's self-concept). As highlighted by Purdon et al. (2007), thoughts that are initially appraised as ego-dystonic can over time be accommodated for into one's self concept, leading that thought to be interpreted as ego-syntonic. It may be that a measure of ego-syntonicity may be more sensitive towards identifying whether an association exists between one's self concept and the process of aggressive script rehearsal– which was not investigated in the present study.

Fourthly, anger rumination, aggressive script rehearsal, and violence supportive beliefs were significant predictors of one's propensity to have acted aggressively in the past. This finding is consistent with prior research which suggests that the more one ruminates on aggressive altercations or acts of revenge, the more likely aggressive behaviour becomes a part of one's repertoire (Daff et al., 2015; Denson, 2013). Life history of aggression was not

predicted by AITs which further confirms the understanding that OCD related AITs are not associated with overt acts of violence (Veale et al., 2009).

The present study has several strengths, including its novel approach of concurrently measuring AITs and aggressive scripts, as well as exploring relevant features of these phenomena with the aim to better differentiate these constructs from each other. Since this study is one of the first to examine AITs and aggressive script rehearsal concurrently, it has brought attention to the complex task of differentiating AITs from aggressive script rehearsal, and through this, has identified issues with measurement instruments of these constructs. The present study's findings also suggest there are differences in the phenomenology of these constructs, where it appears AITs and aggressive script rehearsal differ particularly on factors concerning a history of aggressive behaviour, endorsement of violence supportive beliefs, and the experience of ego-dystonicity. These features warrant consideration when assessing violence risk, specifically when determining which elements of aggressive thoughts indicate one's propensity to act aggressively, when compared to others.

Nevertheless, the present study's findings should be considered in light of several limitations. The study utilised a cross-sectional design with self-report measures, and a limited sample size which prevents causal assumptions being made regarding the relationships found. Similarly, common method variance introduced with self-report instruments may have influenced the relationships found, and thus results should be interpreted with caution. The use of a non-clinical sample of participants, though a common practice in OCD research (Abramowitz et al., 2014), influences the severity and extent to which OC symptoms and obsessive beliefs are reported. Although the current study was able to identify differential predictors of AITs and aggressive script rehearsal, it should be acknowledged that a limited number of participants endorsed such cognitions, and thus relationships that consider these phenomena should be interpreted accordingly.

The present study supports the relationship that violence supportive beliefs and a history of aggressive behaviour have with aggressive script rehearsal. Whether ego-syntonicity is an important feature of aggressive script rehearsal remains unclear, so further exploration is required. This study has also demonstrated the potential overlap that exists between current measurements of AITs and aggressive script rehearsal, and further explorations of these phenomena concurrently is warranted, where the refinement of these measures would have implications for the clinical utility of these instruments. This study provides implications for risk assessments, as preliminary features that distinguish AITs from aggressive script rehearsal were identified empirically: a history of aggressive behaviour, violence supportive beliefs, and ego-dystonicity. Further, examining these phenomena with clinical population groups may prove beneficial in understanding how these constructs are experienced and maintained by those who frequently report them.

CHAPTER 8 – EMPIRICAL RESEARCH STUDY TWO

8.1 Preamble to Empirical Research Paper Two

This chapter presents the second empirical research study of this thesis. Empirical study two addresses the second and third thesis aims, to examine the similarities and differences between AITs and aggressive scripts, and to explore the subjective experiences of aggressive thoughts, respectively. Extending from the findings of empirical study one, empirical study two will further explore features pertinent to aggressive script rehearsal, including the subjective experiences associated with aggressive thinking.

8.2 Recruitment Context for Empirical Study Two

Recruitment for study two was scheduled to begin in June 2021. Due to the global COVID-19 pandemic and Victorian Government lockdown restrictions, in person data collection was unable to begin in 2021. Specifically, data collection strategies for study two involved recruitment of participants from group treatment programs (STOP OCD Program, and the Handling Anger Wisely Program), and both these groups were cancelled in 2021 and rescheduled to resume in early 2022.

Amendments to the Swinburne University Research Ethics Committee and Forensicare's Operational Research Committee applications were made to accommodate for online video or telephone interviews to be conducted. Despite these amendments, community treatment clinicians involved in supporting the recruitment of required participants were unable to identify participants who, (a) met the eligibility criteria for the study, or (b) were comfortable in sharing their experiences of AITs or aggressive scripts. It is worth noting that the student researcher was able to liaise with community OCD treatment clinicians, and it was identified that a common barrier for research participation in individuals diagnosed with

OCD and who experience AITs was the overwhelming fear associated with disclosing their aggressive thoughts, and the perceived repercussions associated with this disclosure.

Data collection resumed in early 2022 when both group programs were scheduled to resume. Despite having several individuals from the STOP OCD group program interested in participating, these individuals did not experience AITs and were therefore not eligible for the study. Between January and July 2022, four individuals from the Community Forensic Mental Health Service participated in the study. Data collection remained open until July 2022, until the decision was made by the student researcher and supervisory team to cease data collection. The decision to abandon the recruitment of the OCD cohort was based on: a) low likelihood of further recruitment due to the ongoing impact of COVID-19 on clinical services, which were experiencing significant demand for services in the face of considerable staffing shortages due to COVID and had thus limited capacity to engage in any research activities; b) the limited timeline for the project; c) already extensive literature on the nature and experience of AITs in OCD; and d) the findings emerging from the forensic population sample which provided a rich and informative perspective on the different experience of both AITs and aggressive scripts. Given the limited parameters of the current project it was deemed that the level of detail obtained was appropriate for an initial exploration for the area, and provided a basis for further exploration and potential comparisons to OCD populations in future research.

8.3 Authorship Indication Form for Empirical Research Paper Two

Swinburne Research

Authorship Indication Form

For PhD by Publication candidates

NOTE

This Authorship Indication form is a statement detailing the percentage of the contribution of each author in each published '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 published paper to be included in your thesis.

DECLARATION

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

Exploring the Experiences of Aggressive Scripts in a Forensic Sample

First Author

Name: Stephanie Jane Fernandez Signature: _____

Percentage of contribution: 80 % Date: 20 / 02 / 2023

Brief description of contribution to the 'paper' and your central responsibilities/role on project:

Reviewing the literature, study design, data collection, data analysis, prepared manuscript

Second Author

Name: Michael Daffern Signature: 

Percentage of contribution: 5 % Date: 21/02/23

Brief description of your contribution to the 'paper':

Supervision on study design and recruitment processes, critically reviewed and edited manuscript

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Name: Richard Moulding Signature: 

Percentage of contribution: 5 % Date: 20 / 02 / 2023

Brief description of your contribution to the 'paper':

Critically reviewed and edited manuscript

Fourth Author

Name: Maja Nedeljkovic Signature: 

Percentage of contribution: 10 % Date: 20 / 02 / 2023

Brief description of your contribution to the 'paper':

Primary supervision at all stages, involvement in data analysis, critically reviewed and edited manuscript

Principal Coordinating Supervisor:

Name: Maja Nedeljkovic Signature: 

Date: 20/02/2023

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

Exploring the Experiences of Aggressive Script Rehearsal in a Sample of Adult Males Recruited from a Forensic Mental Health Service

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Acknowledgements

Funding: The first author received funding support from the Australian Government in the form of an Australian Government Research Training Program Scholarship

Declarations of interest: none

Declaration: This manuscript has not been published elsewhere and has not been submitted simultaneously for publication elsewhere.

Abstract

Aggressive script rehearsal is commonly reported by people with a history of violence and is also a key treatment target in violence intervention programmes. Intrusive thoughts about violence are also a common symptom of Obsessive Compulsive Disorder (OCD) and are experienced frequently, but are not associated with a history of violence. Within forensic practice, the rehearsal of aggressive scripts informs violence risk assessment with repeated rehearsal increasing the potential for violence, particularly when these thoughts are pleasurable and/or when they contain thoughts of seriously harmful behaviours. The features of aggressive scripts experienced by people with a history of violence have not been the focus of much research. This study explored aggressive scripts in a sample of adults with a history of aggression or with problematic expression/control of anger (N = 4). All participants were recruited from a community forensic mental health service. Both qualitative and quantitative data were collected during semi-structured interviews, and an inductive thematic analysis was performed to identify themes in interview transcripts. Quantitative data provided context to explore relationships within the thematic analysis. Participants described several features related to their aggressive thinking with five main themes identified: precipitants, negative impacts, negative experiences, positive experiences, and management. The emotional experiences associated with aggressive thoughts was dependent on the thought content, and a range of thought management strategies were explored. While only having a limited sample size due to the difficulties in accessing this population, this study highlights the importance of exploring several facets of aggressive thinking, beyond beliefs that may support violence, and provides information on the subjective experiences associated with aggressive thoughts.

Keywords: Aggressive scripts; history of violence; thought management; subjective experiences

Exploring the Experiences of Aggressive Script Rehearsal in a Sample of Adult Males Recruited from a Forensic Mental Health Service

Experiencing thoughts about harming another person is a normal phenomenon, commonly reported within the general population (Kenrick & Sheets, 1993; Rowa & Purdon, 2003). However, aggressive thoughts are also reported by people with various mental health disorders, including Obsessive Compulsive Disorder (OCD) where they are experienced as intrusive, repetitive, distressing, and difficult to control (Moulding, Aardema, et al., 2014a; Rachman, 1997). In the OCD field these thoughts are commonly referred to as aggressive intrusive thoughts (AITs) or obsessions, and they are generally not associated with a history or risk of aggression (Veale et al., 2009). However, thoughts about harming another person are often included in risk assessment protocols within forensic settings, as these thoughts are commonly reported by people with a history of violence or who have problems with the regulation of anger (Daff et al., 2015; Hosie et al., 2021). Within forensic settings, thoughts about harming another person are often referred to as aggressive scripts, and repeated rehearsal of aggressive scripts, particularly when they relate to more serious acts of violence and/or when they are associated with pleasurable emotions, are associated with aggressive behaviour (Daff et al., 2015; Gilbert et al., 2013; Hosie, Dunne, et al., 2022).

Aggressive scripts act as mental templates for aggressive behaviour and are created through observations of aggressive actions (Huesmann & Eron, 1984). Social cognitive models of aggression posit that an individual's propensity to act aggressively can be attributed to how frequently they mentally rehearse aggressive scripts (Bushman & Anderson, 2002; Gilbert et al., 2013; Huesmann, 1988), as well as the extent to which they hold antisocial attitudes, and have experienced aggressive behaviour in their lifetime (Andrews et al., 2011; Coccaro et al., 1997; Mills et al., 2002). As highlighted by Gilbert and Daffern (2017), individuals with a history of violent offending typically report more frequent

rehearsal of aggressive scripts and that these scripts are more established and accessible in mind, thus increasing the likelihood of future aggressive actions. In contrast, AITs are defined as intrusive, repetitive, and unwanted thoughts about harming another person, and are experienced as significantly distressing, abhorrent, and inconsistent with one's view of self (Rachman, 1981, 1997). Individuals with OCD who report these intrusions are often reluctant to seek treatment or speak about their thoughts as they are ashamed about what these thoughts may mean about them, as well as fearing being judged negatively (e.g., 'having these thoughts means I'm a terrible, dangerous person'; Veale et al., 2009). Findings from DeLapp et al. (2018) suggest that AITs can exist in individuals with a history of violence, with results revealing that the frequency of AITs did not differ between individuals incarcerated for violent offending (n = 78) and a student sample (n = 103). It is important to highlight that both AITs and aggressive scripts can be reported by individuals with a history of violence, and therefore being able to differentiate between these two phenomena has implications for the assessment and treatment of these constructs. Although AITs and aggressive scripts share similarities in terms of thought content, there appears to be a clear difference in the behavioural outcomes associated. This may be attributed to the distinct population groups these constructs are investigated in, but this may also indicate differences in phenomenological processes involved in these constructs. The features that separate AITs and aggressive scripts are not clearly understood. Further, exploring the features associated with aggressive script rehearsal in individuals with a violent history may prove beneficial in understanding the factors that influence levels of violence risk.

Cognitive Explanations of AITs and Aggressive Scripts: Consideration of Self-themes

AITs in OCD research are widely regarded as ego-dystonic, distinguishing them from aggressive scripts in offender populations (Fernandez et al., 2022), and furthermore, separating them from other normative cognitions (e.g., rumination, negative thoughts in

depression; Belloch et al., 2012). A thought is considered ego-dystonic when it is perceived by the individual as being inconsistent with their sense of self, beliefs, and past behaviour (Purdon et al., 2007). Further, whether a thought is considered ego-dystonic is also dependent on the thought content and the degree to which the individual experiences the thought content as being personally salient (Purdon & Clark, 1999). With regards to repugnant obsessions (i.e., intrusive thoughts encompassing harm towards other people and aggression, sexual themes, and contents that are personally repugnant or immoral), Aardema et al. (2013) identified that ego-dystonicity appeared as a unique predictor of these type of intrusions.

With regards to aggressive scripts, the General Aggression Model and Script Theory postulate that the frequent rehearsal of aggressive scripts is associated with acts of violence (Bushman & Anderson, 2002; Daff et al., 2015), and aggressive scripts are maintained because they are seen as acceptable to the individual, with the frequency of aggressive script rehearsal correlating with the strength of endorsement with violence supportive beliefs (Gilbert & Daffern, 2017). Further, cognitive models of aggressive thinking such as the Multiple Systems Model (Denson, 2013) posit that the precursors to aggression likely concern the extent to which individuals engage in anger rumination—perseverative thinking concerning experiences of anger, and ruminations of past provocations. Research has identified the role that normative beliefs about violence have on the experience and maintenance of aggressive thinking over time (Gilbert et al., 2013; Hosie et al., 2021), but little is understood about how these thoughts are appraised by those who experience them (Hosie, Dunne, et al., 2022; Patel, 2015).

A recent study by Fernandez et al. (2022) found that in a non-clinical sample (N= 410), aggressive scripts and AITs may be differentiated by features related to ego-dystonicity, violence supportive beliefs, and a life history of violence. In support of the current understanding of scripts (Hosie, Dunne, et al., 2022; Kelty et al., 2011), Fernandez et

al. (2022) identified that the presence of violence supportive beliefs and a history of aggressive behaviour was related to the rehearsal of aggressive scripts. In line with prior research (Veale et al., 2009), violence supportive beliefs and a history of aggressive behaviour were not associated with AITs. Consistent with phenomenological underpinnings of repugnant intrusive thoughts (Moulding, Aardema, et al., 2014a; Purdon et al., 2007), Fernandez et al. (2022) identified that AITs were related to ego-dystonic beliefs, and no association was found between the experience of ego-dystonic beliefs and aggressive script rehearsal. Given there is little empirical examination of the subjective experiences associated with aggressive script rehearsal, anecdotal assumptions purport that an individual with a history of aggression, who holds normative beliefs about aggression, is likely to experience their aggressive script rehearsal as ego-syntonic—i.e., consistent with one's beliefs, intentions, or past experiences (Belloch et al., 2012). Empirical investigations exploring the subjective experiences associated with aggressive scripts is warranted, as understanding the features associated with aggressive scripts may have implications for assessment and treatment of these phenomena.

Purdon et al. (2007) highlighted how an intrusive thought that is initially experienced as ego-dystonic, can over time, be appraised as ego-syntonic as it becomes accommodated within a person self-view rather than resisted. This change in self-view is said to include feared self-perceptions, where the individual may view themselves as being dangerous, bad, or immoral (Purdon et al., 2007). While this change in self-view may influence an ego-dystonic AIT to be perceived as ego-syntonic, it is important to highlight that in OCD although individuals may no longer resist the thought, compulsive behaviours are still used to reduce the perceived consequences of the AIT, and one's intention to act aggressively or in accordance with their AITs does not appear to change (Veale et al., 2009). Changes in self-view have also been explored with reference to aggression and violent behaviour in forensic

populations, however, in contexts where individuals rehearse aggressive scripts repeatedly, the perpetration of aggressive behaviour becomes normalised, as this behaviour becomes assimilated as being part of one's self-view (Patel, 2015). Further examination of the experiences associated with aggressive thinking will prove useful for risk assessment and treatment, as well as the potential for using subjective differences to differentiate aggressive thinking from other similar thought phenomena.

Differential Features of AITs versus aggressive scripts

Research has identified the key features that differentiate intrusive thoughts from other anxiety and mood related phenomena (Clark, 2004). These features include level of frequency, distress, intrusiveness, unwantedness, ego-dystonicity, disruption in functioning, and spontaneity (Clark, 2004; Moulding, Aardema, et al., 2014a). Whether these features can be used to differentiate AITs from aggressive scripts requires further empirical exploration. In a qualitative investigation of individuals with a history of violent behaviour, Patel (2015) found that individuals were likely to describe their aggressive thinking as disturbing and unwanted, and that distraction strategies were used to manage these thought experiences. Research examining the use of thought control strategies to manage aggressive thoughts have revealed that the use of certain thought control strategies such as distraction may reduce aggression (Nagtegaal et al., 2006). The features identified by Patel (2015) indicate that aggressive thoughts in individuals with a history of aggressive behaviour may be experienced similarly to AITs in OCD, specifically how these thoughts are described as disturbing and unwanted, and the use of thought control to manage the thought occurrence. However, the similarities between these constructs leads to questions regarding what features differentiate these phenomena.

Further, the frequency of script rehearsal and emotional experience associated with the rehearsal of aggressive scripts in forensic populations has received some attention (Hosie

et al., 2021), with results showing that the frequency of aggressive script rehearsal was related to greater life history of violence. Hosie et al. (2021) also identified that the most common emotional experience associated with aggressive script rehearsal was anger, followed by hate, fear, sadness, disgust, confusion, and annoyance. Also, individuals with a greater history of violence were more likely to report that their aggressive thinking was associated with excitement (Hosie et al., 2021). Hosie et al. (2021) also showed that common precipitants of aggressive script rehearsal included themes around family protection/betrayal and feeling belittled and disrespected by others. Hosie et al. (2021) highlighted the need for further research to consider the identification of themes associated with aggressive script rehearsal, as this may likely improve understanding of this construct including the nature and purpose of script rehearsal.

Aggressive script rehearsal serves planning and emotional regulation functions (Hosie, Dunne, et al., 2022; Patel, 2015). Emotion regulation is the process by which individuals affect the way they experience and express their emotions (Gross, 1998). In a study exploring relationships between emotion regulation difficulties, aggressive script rehearsal, and aggressive behaviour in an incarcerated male sample (N = 129), Hosie, Dunne, et al. (2022) found that the frequency of aggressive script rehearsal was significantly positively correlated with emotional regulation difficulties, specifically impulse control difficulties and experiencing limited confidence in using emotional regulation strategies. Further, Hosie, Dunne, et al. (2022) suggest that that aggressive script rehearsal may serve as a cognitive response modulation strategy, alleviating negative emotional experiences, or used as a way to plan an individual's retaliation against the perceived causes of negative affect. The emotional regulation function of aggressive scripts has been considered in previous research, where Patel (2015) identified, in a qualitative analysis of offenders' aggressive thoughts, that themes related to power and control, and coping, were associated with

emotional regulation functions. Further exploration of the function of aggressive thinking is warranted as understanding what influences individuals to engage in the rehearsal of these thoughts may help elucidate features of this phenomena and its functions.

Current Study

In recent years the importance of aggressive script rehearsal to aggressive behaviour has been highlighted, suggesting implications for violence risk assessment. At the same time, questions have been asked about phenomenological overlap with AITs, which, despite sharing aggressive content, seem unrelated to aggressive behaviour. This study aimed to explore the subjective experience of individuals with a history of violent behaviour or problematic anger. Specifically, the study aimed to elucidate the cognitive, emotional and behavioural features of aggressive scripts and AITs in a forensic sample, and to examine the role that specific characteristics, including intrusiveness, spontaneity, ego-dystonicity, feared self, and level of distress, have on the experience of these scripts and AITs. The specific research questions of the study were:

1. What are the subjective experiences associated with aggressive thoughts (both in the form of scripts and AITs) in a forensic sample?
2. Are there specific features, beliefs, or experiences associated with aggressive thoughts in a forensic sample?
3. What are the emotional and behavioural outcomes associated with aggressive thinking in a forensic sample?

Method

Research design

Qualitative data was collected to identify participants experiences of aggressive thinking, with quantitative data describing symptom severities, and clinical cut-offs used to contextualise the subjective experiences of aggressive thoughts. As highlighted by Yardley

and Bishop (2007), the integration of qualitative and quantitative data should follow a pragmatism approach with the goal of data inquiry not only based on identifying the truth in human experience, but the richness of the experience of individuals by combining idiosyncratic exploration and scientific approaches. This pragmatic viewpoint was used as a basis for the integration of qualitative and quantitative data in this study. Given the absence of prior research examining participants' descriptions of their personal experience of aggressive scripts and AITs in verbatim dialogue, it was decided prior to data collection that greater significance would be given to the qualitative data rather than the quantitative data. Further, given the exploratory nature of the study, precedence was given to the quality and richness of interviews, rather than sample size. Nevertheless, the small sample also did not permit the use of inferential statistics when analysing the quantitative data.

Participants

Participants were recruited from a Community Forensic Mental Health Service (CFMHS), a state-wide forensic mental health service in Victoria, Australia. All participants had a history of violence or were reported or considered, by their treating psychiatrist or psychologist, to have problems with anger or aggression. Participants had to be over 18 years and able to consent voluntarily, could not have a past or present experience of psychosis, and were required to have English language skills that would allow for conversation during interviews. All genders were invited to participate. Participants with a history of interpersonal violence, aggression, or anger problems were sought given the increased likelihood that aggressive thoughts are reported in individuals with such histories. Participants were offered a AUD$30 gift voucher (excluding alcohol purchases) in appreciation of their participation. Four males agreed to participate, and they were aged between 23 and 49 (M = 36.50; SD = 10.76).

Materials

Symptom measures

Several self-report and symptom measures were administered to provide descriptive statistics about the sample and to inform the semi-structured interview questions discussed below. These measures included the (1) Anger Rumination Scale - Thoughts of Revenge Subscale (ARS; Sukhodolsky et al., 2001), (2) Depression Anxiety Stress Scales - Short Form version (DASS-21; Lovibond & Lovibond, 1995), (3) Ego-Dystonicity Questionnaire-Reduced Version (EDQ-R; Belloch et al., 2012), (4) Fear of Self Questionnaire (FSQ; Aardema et al., 2013), (5) Life History of Aggression – Aggression Subscale (LHA; Coccaro et al., 1997), (6) Measures of Criminal Attitudes and Associations – Violence Subscale (MCAA; Mills et al., 2002), (7) Obsessive Beliefs Questionnaire (OBQ-20; Moulding et al., 2011), (8) Obsessive Compulsive Inventory Revised (OCI-R; Foa et al., 2002), (9) Self-Ambivalence Measure (SAM; Bhar & Kyrios, 2007), (10) Social Desirability Scale (SDS; Stöber, 2001), (11) Thought Control Questionnaire (TCQ; Luciano et al., 2006), (12) Schedule of Imagined Violence – Frequency Item (SIV; Grisso et al., 2000), and (13) Questionnaire of Unpleasant Intrusive Thoughts – Unpleasant Content Domain (QUIT; Pascual-Vera et al., 2019). For brevity, details on the psychometric properties of these measures are included in supplementary material S1 (Appendix Z).

Semi-structured interview

This study used a semi-structured interview format, created for the purpose of investigating the research questions of the study. The interview schedule was developed by the authors and was derived from existing measures of AITs (Questionnaire of Unpleasant Intrusive Thoughts [QUIT]; Pascual-Vera et al., 2019) and aggressive script rehearsal (Schedule of Imagined Violence [SIV]; Grisso et al., 2000). A semi-structured interview format allowed the researcher to employ follow-up style questions after participant responses,

including their responses to the self-report measures. For example, participants who reported rehearsing aggressive thoughts were asked to describe their experiences such as to whether the aggressive thoughts were experienced as intrusive, spontaneous, or distressing.

Procedure

Recruitment and data collection were ongoing from September 2021 to August 2022. After informed consent was obtained, voluntary participation, and the right to withdraw were discussed, the SIV and QUIT were administered alongside the semi-structured interview and were followed by a battery of self-report questionnaires. Responses to the questionnaires were followed with further semi-structured questioning and probing. All interviews were audio recorded using Otter.ai software. Interviews were transcribed by (author initials redacted) using Otter.ai software. The interview transcripts were then imported into NVivo software package for qualitative analysis. Quantitative data obtained from self-report questionnaires were analysed in IBM SPSS Statistics 27 for PC to generate descriptive statistics for the sample.

Qualitative and Quantitative Analysis

Qualitative analysis involved the use of inductive thematic analysis on the interview transcripts, across both sample groups. As highlighted by Braun and Clarke (2006), inductive or 'bottom up' thematic analysis involves identifying themes that are derived from the data, as opposed to a theoretical or analytic interest guiding the identification of themes (i.e., deductive or 'top down' thematic analysis). Table 4 presents the procedure for thematic analyses used in the current study, derived from the six phases of thematic analysis by Braun and Clarke (2006).

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Table 4. The six phases of thematic analysis used in the current study derived from Braun and Clarke (2006)

Phase	Description of what occurred
1. Familiarising yourself with your data	The first author conducted all interviews and reviewed transcriptions uploaded to Otter.ai.
2. Generating initial codes	The first and last author generated initial codes (together and individually) using NVivo 11, and met frequently to discuss code content and process
3. Generating initial themes	During discussions with the first and last author, codes were organised on piece of paper and arranged into preliminary themes. Several codes were discarded or reorganised.
4. Reviewing identified themes	Through team discussions, codes were reviewed under each preliminary themes. Codes were reorganised or discarded accordingly. The relationship between codes and themes were explored as a team.
5. Defining and naming themes	Theme names were reviewed, and cross checked with code content during team discussions. Final theme names were decided during team discussions.
6. Producing the report	A draft of the report was written by the first author using identified themes and certain extracts. Further drafts received feedback by all authors.

Total scores for the self-report measures were calculated to provide supplementary findings to the qualitative results. As the study utilised a small sample, inferential analyses could not be completed. Quantitative and qualitative data were analysed separately and integrated during the data interpretation phase.

Results

Quantitative findings

Table 5 presents psychometric scores for each participant from the self-report measures and clinical cut-off scores for the clinical measures from Lovibond and Lovibond (1995) and Abramovitch et al. (2020), respectively (i.e., for the DASS-21, the OCI-R). According to scores on the clinical measures, these scores indicate that most participants reported experiencing moderate to extreme-severe levels of depression, anxiety and stress symptoms (Lovibond & Lovibond, 1995). Results also indicate that all participants reported at least moderate levels of obsessive-compulsive symptoms (Abramovitch et al., 2020). Further, scores on the SDS suggest that all participants except for Participant B were likely to

respond to questions posed in the self-report questionnaires and interview in a socially desirable way.

Table 5. Demographics and Self-Report Measure Scores for Each Participant

	Participants			
	Participant A	Participant B	Participant C	Participant D
Aggression Measures				
ARS-Revenge	15	16	9	12
LHA-Aggression	21	25	8	21
MCAA-Violence	24	24	18	17
Clinical Symptoms				
Total DASS	52	62	86	38
DASS-Depression	14 (moderate)	20 (moderate)	16 (moderate)	6 (normal)
DASS-Anxiety	14 (moderate)	10 (moderate)	36 (extremely severe)	20 (extremely severe)
DASS-Stress	24 (moderate)	32 (severe)	34 (extremely severe)	12 (normal)
OCI	40 (severe)	31 (severe)	35 (severe)	16 (moderate)
Other				
Total OBQ	83	89	94	92
OBQ-T	28	24	21	23
OBQ-R	14	17	27	27
OBQ-I/C	12	15	23	19
OBQ-P/U	29	33	23	23
EDQ	147	129	44	63
TCQ	26	25	38	38
FSQ	36	23	43	43
SAM	29	31	55	63
SDS	8	2	10	10
Age	49	35	39	23
Ethnicity	Australian	Australian	Australian	Australian

Note. ARS - Revenge = Anger Rumination Scale – Thoughts of Revenge subscale; DASS = Depression Anxiety Stress Scale; EDQ = Ego Dystonicity Questionnaire; FSQ = Fear of Self Questionnaire; LHA-Aggression = Life History of Aggression – Aggression subscale; MCAA - Violence = Measure of Criminal Attitudes and Associates- Violence subscale; OBQ = Obsessive Beliefs Questionnaire; OBQ- T = Obsessive Beliefs Questionnaire – Threat subscale; OBQ- R = Obsessive Beliefs Questionnaire – Responsibility subscale; OBQ- I/C = Obsessive Beliefs Questionnaire – Importance and Control of Thought subscale; OBQ- P/U = Obsessive Beliefs Questionnaire – Perfectionism and Uncertainty subscale; OCI-R = Obsessive Compulsive Inventory-Revised; SAM = Self Ambivalence Measure; SDS = Social Desirability Scale; SIV = Schedule of Imagined Violence - Frequency; TCQ = Thought Control Questionnaire; QUIT = Questionnaire of Unpleasant Intrusive Thoughts - Frequency

Analysis of the total scores from the self-report measures indicated that all participants reported engaging in anger rumination, held violence supportive beliefs, and had a history of aggression. Psychometric data also revealed that all participants experienced, to varying extents, maladaptive obsessive beliefs and beliefs concerning the self. Further, participants A and B's psychometric scores on the EDQ indicated that they experienced elements of ego-dystonicity with regards to their aggressive thought experiences.

Qualitative findings

Five major themes derived from the semi-structured interviews and illustrative participant descriptions are presented below. During the interviews and data analysis, difficulties arose when attempting to differentiate whether respondents were describing AITs or aggressive scripts. Therefore, no assumptions have been made with regards to which construct participants were describing, and this is justified on the basis that both positive and negative emotions were identified when rehearsing aggressive thoughts. Results from the thematic analysis revealed that the rehearsal of aggressive thoughts is a complex process, involving many facets, and can precipitate both positive and negative experiences for those who experience them.

Theme 1: Precipitants. Most participants said that the precipitants to their aggressive thinking was related to being provoked by another person or being exposed to certain objects (e.g., such as a knife). The type of provoking situation was idiosyncratic, and each participant described unique precipitants (i.e., road rage). Most participants reported that their experience of trauma and abuse were likely the cause of their propensity to rehearse aggressive thoughts.

Most participants noted that their aggressive thought rehearsal was dependent on the mood they were in, and that negative affect most often induced this type of thinking. Some participants acknowledged that experiencing anger would often perpetuate the aggressive thinking.

Sometimes anger, anger will help spur it along. (Participant B)

I'm basically put under a lot of stress, and that causes me to go into that thinking mode. (Participant D)

Theme 2: Negative impacts. Participants described several negative impacts associated with the rehearsal of aggressive thoughts. The main impact noted was that the aggressive thought impacted a person's attention and concentration, as they would become

fixated on the aggressive thought. Participants also described that the thoughts may often appear frequently and spontaneously, and that this process can be disruptive and impact on any activity at hand. Some participants described that the thoughts would become "*all consuming*" and that it was experienced as "*invasive and intrusive*". Several participants noted that the graphic content of the aggressive thoughts was what drew their attention to the thought, and this was described by most participants as being a negative experience. One participant noted that the aggressive thought was significantly distracting to them, impacting their interaction in social settings.

> *Nothing else is going in my head. It's just constant thinking about what I could do to the individual or object or whatever it might be. It's all consuming. (Participant A)*

Through exploring the subjective experiences associated with aggressive thinking, it was identified that some participants reported both positive and negative experiences. These experiences are detailed below across two themes.

Theme 3: Negative experiences. Most participants described the emotional impact of aggressive thinking as unpleasant, unwanted, and/or distressing. Whether participants considered their aggressive thought as unpleasant, unwanted, and/or distressing was dependent on the content, and whether this content was salient to the individual. Several participants acknowledged that aggressive thoughts that were related to people they cared about, were experienced as very distressing. Additionally, some participants noted that the distressing aspect of the thought was centred on how they were perceived by others.

> *If it's someone who I really love, dear, and care for I get very distressed. (Participant A)*
>
> *Probably the fact that I never wanted to be an angry person yet, unfortunately,*

I've always been an angry person and I'm very well known for it unfortunately…The violence isn't what I want you know, it shouldn't be needed sort of thing. And even though I've had some very aggressive thoughts over a while now, I've never wanted them. (Participant D)

The concept of ego-dystonicity appeared from participants' description of their emotional experiences associated with their aggressive thoughts. Similar to how certain thoughts were considered distressing, whether the aggressive thought experience was ego-dystonic to the individual was highly subjective. This was dependent on their level of discomfort associated with the thought content, and their interpretation of the thought.

Distressed is probably the best one. So as I'm heading up, adrenaline excited, and if it's someone that I care about I get very distressed afterwards. (Participant A)

It's not normal for a normal person to think that they can, they want to break someone's arm or rip someone's head off especially if it's over something petty. (Participant C)

All participants acknowledged that the potential outcomes associated with enacting their aggressive thoughts was something they were highly aware of and were keen to avoid. Most participants noted that going to jail or having a criminal record was a negative outcome they did not wish to experience.

Well, that's the part that keeps me out of jail…I value my freedom too much. (Participant B)

I don't want to go to jail. That's a life ruiner you know…if I got a criminal record, I would not be allowed to work…(Participant D)

A subtheme of negative experiences was centred around negative self-perceptions resulting from their aggressive thought experiences.

I've always considered myself to be damaged goods (Participant A)

Yeah I am [fearful of what the thoughts reflects about me] and like it really scares me that I am…It just important for me going forward in life because if I'm a bad person, then I deserve what I get. (Participant C)

I've always been known as a reactive angry person. (Participant D)

Some participants acknowledged recognising that their aggressive thinking was a source of them feeling like they were different to others or people they knew.

I've always been different, different amongst my friendship groups different amongst my family. (Participant A)

I mean, I've always wondered why I fought and acted differently like my whole life. (Participant B)

Theme 4: Positive experiences. Some participants noted that the rehearsal of aggressive thinking was associated with pleasant emotions including feeling amused, experiencing enjoyment, and excitement, with two participants describing aggressive thinking generating a positive and energising physiological response, an "adrenaline rush". One participant described that the pleasant experience associated with aggressive thinking was influenced by the physiological sensations in their body which precipitated sexual arousal.

I get super excited and it's like an absolute adrenaline rush (Participant A)

…It's normally a sensation of, of feeling quite good. (Participant B)

…If I'm totally honest, I sort of felt on top of the world in my own little world (Participant D)

Most participants recounted deliberately engaging with or elaborating on their aggressive thinking, suggesting an active role in this process.

Because what's going on in my head is just going over and I'm refining, you know, I'll go for more, I'll pick up that steak knife and jam it in their throat to going oh no I could have more fun doing it this way or that way. (Participant A)

…I'll run through a scenario in my mind where it'll be like, so it's not just like a still picture, but it's almost like watching a move where I'll see it all unfold but like everything, like it could be the whole situation…running through my head frame by frame. (Participant B)

So I was sort of fuelling my own little fantasy with violent thoughts. (Participant D)

Nearly all participants described that their aggressive thinking, which was deemed a pleasant experience, reflected consistency with their sense of conduct, history of violence, attitudes, how they perceived themselves, or content that they enjoyed thinking about.

If it's something that I don't, someone or something that I don't care about I get super excited absolute adrenaline rush. (Participant A)

…mainly you know, people I deem as being unworthy or trash basically, which I kind of sometime lump everyone into that category…I suppose things that have helped mould and shape my mind in different ways…Oh [aggressive thoughts] don't bother me, as long as I can understand them. (Participant B)

…the aggressive thoughts, definitely are something that was a part of who I was in the last few years. (Participant D)

A participant described that their aggressive thinking served a function of providing a place to imagine using violence as a solution to their problems.

…wanting to fix the problems myself with violence…because I imagined it in my mind, you know, figuring out the problem with violence would clear up the problem and therefore not exist…yeah the problem is solved. (Participant D)

Theme 5: Management. Participants described several ways they managed their aggressive thoughts, with the most common involving some form of experiential avoidance. By deliberately avoiding aggressive thoughts, participants described feeling that they were engaging in "healthier" ways of thinking and thereby reducing the likelihood of being in risky situations.

I can't get rid of the thoughts unless I've got other coping mechanisms around me. (Participant A)

If I'm not around knives, it's one less way or avenue for me to get into trouble… (Participant B)

…submerge myself into escape basically, that is my form of escapism. (Participant D)

Additionally, some participants described the benefit of engaging in cognitive restructuring, to help modify the way they experienced and interacted with their thoughts.

I'm just trying to come up with healthier ways basically to, to let the thought come and go and to think of something else. (Participant B)

Whereas now it's, you know … now it doesn't really, it's not something that I hang on to because if I don't let it go, then it eats me up. (Participant D)

All participants described that receiving support from others, including family, loved ones, or professionals, helped manage their aggressive thinking. Some participants acknowledged setting limits to their thinking, where they were aware of certain people or experiences that they did not want their aggressive thinking contents to revolve around, and thus attempts to manage the thought were made.

Discussion

The aim of the study was to examine the subjective experiences associated with aggressive thinking in a sample of community forensic mental health clients who had a history of violent offending or who were considered by treating professionals to have

problems with the experience or regulation of anger. Findings highlight that both positive and negative experiences are associated with aggressive thinking, the negative impacts that develop as the thoughts are experienced, as well as the types of circumstances that precipitate the thoughts and what people sometimes do to manage negative experiences and impacts.

Experiences Associated with Aggressive Thinking

Negative Impacts

This study revealed that aggressive thinking may include several negative impacts related to the disruption of functioning, intrusiveness, frequency of thought, and level of distraction associated with the thought. This is consistent with Patel (2015) and Hosie, Dunne, et al. (2022) where the experience of aggressive thinking was sometimes associated with feelings of intrusiveness, and that participants are often seeking to manage their thoughts, seemingly to avoid acting on them aggressively, but also because they sometimes dislike the self-perception that experiencing these thoughts reflects poorly on them, and that experiencing these thoughts means they are a 'bad person'. These experiences are not all that different to those reported by individuals with AITs in OCD, where the frequent and intrusive thoughts precipitate thought control strategies and these thoughts are often associated with negative self-appraisals (Belloch et al., 2007; Moulding, Aardema, et al., 2014a). These findings suggest that the negative impacts associated with AITs in OCD, and aggressive thoughts experienced by individuals with a history of aggressive behaviour, are similar and thus may not prove as useful features for differentiation between these phenomena.

Thought Management

The use of management strategies to control aggressive thoughts or to distract oneself from their thoughts was highlighted in the current study, and findings revealed that the form of strategies employed to manage aggressive thinking was different for each participant.

Consistent with prior findings, the current study highlights the use of methods such as experiential avoidance, cognitive restructuring, and social coping (i.e., seeking support from others such as loved ones or professionals) to manage aggressive thinking (Nagtegaal et al., 2006; Patel, 2015). Findings from Fernandez et al. (2022) highlight that the use of thought control strategies was negatively associated with aggressive script rehearsal, suggesting that these methods may be useful in reducing the frequency of these thoughts. Whether the methods identified in the current study, such as experiential avoidance, cognitive restructuring, and distraction are effective in the long-term management of aggressive thoughts requires further examination, as previous studies have questioned the long-term benefit of thought control (Nagtegaal et al., 2006; Stokes et al., 2022). Within the context of OCD, research findings examining the use of thought suppression and thought control for the management of intrusive thoughts are mixed, where the use of certain methods, such as thought suppression, have been found to exacerbate obsessive compulsive symptoms (Belloch et al., 2004; Purdon & Clark, 2001; Wegner et al., 1987). However, research has also identified that methods such as cognitive restructuring may be effective in reducing obsessive compulsive symptoms (Clark, 2004; Shingler, 2009). The current study's findings highlighted the potential benefit of using certain thought control strategies in the management of aggressive thinking, however the long-term efficacy of these methods requires further exploration.

Precipitants of Thoughts

The current study identified various precipitants to aggressive thinking and consistent with the Multiple Systems Model developed by Denson (2013), perservative thinking of anger or provoking situations appear to intensify and prolong one's engagement with their aggressive thoughts. In this study respondents reported that they were likely to engage in aggressive thinking as a means of emotional regulation, or that the thinking was triggered by

a certain emotional state (e.g., anger or frustration). This finding aligns with previous research by Hosie, Dunne, et al. (2022), where engagement with aggressive thinking has been proposed to regulate negative affect, helping individuals alleviate an unpleasant emotional state or provide rehearsal of plans for retaliation to provocation. Overall, these results suggest that although the precipitants to aggressive thinking may involve an emotional component, specific precipitants for aggressive thinking remain idiosyncratic and likely reflect subjective situations that induce aggressive or anger states in the individual. Within the context of OCD, repugnant thoughts such as AITs are not used as a means of emotional regulation (Veale et al., 2009), their occurrence is said to be attributed to internal processes, and identifiable precipitants are less clearly understood (Lee & Kwon, 2003). These findings suggest that the precipitants and rehearsal of AITs and aggressive thoughts may be features useful in differentiating between these phenomena, however, further exploration of these features is required.

Negative and Positive Experiences

Our findings suggest an association between aggressive thinking and negative experiences, namely features pertinent to unpleasantness and unwantedness, distress, concern regarding consequences, and some elements of ego-dystonicity. The results support previous findings which have demonstrated that aggressive thinking in individuals with a history of aggression can be experienced as unwanted and disturbing (Patel, 2015). An unexpected finding was that aggressive thinking may be associated with elements of ego-dystonicity (i.e., experienced as inconsistent with one's self-view) in a forensic population. Extending the findings from Fernandez et al. (2022), the current study demonstrates that ego-dystonicity may relate to aggressive thinking only in specific contexts. Although participants had a history of violence or problems with anger, whether their aggressive thought experiences were deemed ego-dystonic was dependent on the thought content type (e.g., if it concerned

loved ones or people they cared for), how they interpreted the thought (e.g., believing they are not normal for thinking aggressively, or perhaps believing the person was deserving of provocation), and the emotional reaction associated. Research on ego-dystonicity in forensic samples is limited, and therefore the literature explaining these findings is limited to studies conducted amongst OCD populations. Purdon and Clark (1999) propose that whether a thought is deemed to be ego-dystonic is dependent on how salient the thought is to the individual, and this may concern areas related to though content, appraisal, and emotional reactions. Therefore, even in samples prone to violence, aggressive thoughts may be experienced as ego-dystonic to the individual depending on thought content, and thus may be associated with different levels of violence risk. Further exploration of ego-dystonicity in the context of aggressive thinking in forensic samples may elucidate the role this concept has on influencing or limiting aggressive behaviour over time, and it may explain desistance processes in individuals who have a history of violence but who are now committed to non-violence. Additionally, the current study identified that certain negative self-perceptions were described in relation to aggressive thought experiences. Our findings reflect that individuals may engage in negative self-appraisals when experiencing aggressive thoughts, including seeing themselves as different to others, or being fearful of what their thinking reflects about them. These findings are similar to what is observed in individuals with OCD who report AITs, where negative self-perceptions develop from the experience of ego-dystonic thoughts. However, whether these features influence levels of violence risk remains unclear, as research exploring self-perception and aggressive thoughts, in individuals with a history of violence is limited.

Positive experiences were also identified as a feature associated with aggressive thinking for some participants. Our findings suggest that the engagement with aggressive thinking may be related to elements of pleasant emotional experiences, ego-syntonicity, and

deliberate elaboration and refinement of aggressive scripts. These findings are consistent with prior research which suggest that there are different emotional reactions to aggressive thinking (Hosie et al., 2021), and that some individuals may experience their aggressive thoughts as pleasurable and exciting (Patel, 2015). These findings also present the possibility that individuals who experience their aggressive thinking with positive emotions are likely to interpret them as aligning with their sense of self, attitudes, and behaviour. This is consistent with prior findings that suggest aggressive thinking is influenced by one's attitudes towards violence, and history of violent behaviour (Gilbert & Daffern, 2017; Gilbert et al., 2013). Additionally, the current study's findings suggest that one's engagement with aggressive thinking may also provide an avenue for imagination whereby a theme of rehearsing aggressive thoughts to provide a solution to a problem was identified. This has been elucidated by Gilbert and Daffern (2017) particularly when differentiating between conceptually related constructs such as aggressive scripts and aggressive fantasies. It is likely that in the current study the exploration of aggressive thinking associated with positive affect has revealed connections with aggressive fantasies, which are less focused on planning and preparation and are likely to serve an emotional regulation function (Gilbert & Daffern, 2017). The positive emotional experiences associated with aggressive thinking identified in the current study contrasts to understanding of AITs in OCD where it is emphasised within OCD literature that the experience of intrusive thoughts are highly ego-dystonic and associated with negative affect, including distress and fear (Veale et al., 2009). The current study may highlight the importance of considering an individual's subjective experience of their aggressive thought, including their emotional reaction to the thought and how this may impact on the risk of violence.

Strengths, Limitations and Future Research Directions

The current study presents with several strengths, including being one of the first studies to investigate the subjective experiences associated with aggressive thinking. The present study is one of the first to examine aggressive thinking and its relationship with OCD-related concepts, with the aim to identify relevant features associated with the rehearsal of aggressive thinking. However, the current study's findings should be considered in light of certain limitations. It is acknowledged that a small sample of participants were used, and given that the focus of qualitative data analyses is on theme identification and development, the authors were not concerned with theme saturation. Current issues with measurement instruments of aggressive thinking phenomena (i.e., AITs and aggressive scripts) made it difficult to differentiate what constructs respondents were discussing, especially if both phenomena were present. This limitation highlights the current lack of clear conceptualisations of these constructs, and how these phenomena differ. Further, the quantitative data from this study suggest that the aggressive thinking experiences were common in a group with moderate to severe clinical symptoms, and thus further research may consider investigating these experiences in other populations to develop a richer understanding of the experiences and impacts of aggressive thinking.

Conclusion

The present study has demonstrated that a range of features (e.g., intrusiveness, frequency, disruption of functioning), and both positive and negative emotional experiences may be associated with aggressive thinking in a forensic sample. The present study's findings have highlighted that aggressive thinking can be largely idiosyncratic, precipitated by external events or used as a means of emotional regulation. The present study identified that elements of ego-dystonicity and ego-syntonicity may be related to aggressive thinking, but are dependent on thought content. Further, the likelihood of aggressive behaviour can be

attributed to the extent one holds violence supportive beliefs and has a history of aggressive behaviour. The role ego-dystonicity and ego-syntonicity play in influencing aggressive behaviour is still largely unknown, however, the present study has demonstrated that ego-dystonic aggressive thoughts are likely associated with unpleasant and negative emotions, which may influence violence risk levels. The current study's findings have implications for the assessment and treatment of aggressive thoughts, emphasising the need for clinical assessments to explore a range of features associated with one's thoughts. The current study has demonstrated that aggressive thoughts can be experienced both positively and negatively, and without further exploration of thought content, thought precipitants, emotional experience, and thought engagement and intention, little will be discerned regarding the likelihood of these thoughts becoming problematic or influencing aggressive behaviour.

PART III – GENERAL DISCUSSION AND CONCLUSION

CHAPTER 9 – INTEGRATED DISCUSSION

Experiencing thoughts about harming another person are said to be a universal phenomena (Rowa & Purdon, 2003), however, they are also a common symptom of various mental health disorders, including OCD (i.e., in the form of AITs), and have been consistently reported in forensic populations as cognitions that increase propensity for aggressive behaviour (i.e., in the form of aggressive scripts; Hosie et al., 2021; Moulding, Aardema, et al., 2014a). Although the outcomes associated with AITs and aggressive scripts are thought to be distinct, no empirical investigations have been conducted concurrently to differentiate these phenomena, including identifying features that may be unique to each construct. This thesis aimed to address these gaps in the literature by conducting a critical review exploring what features, already established in OCD literature, may overlap with aggressive script rehearsal, as well as conducting two empirical studies focusing on the experiences of AITs and aggressive scripts, and the role maladaptive beliefs play in their occurrence. This chapter provides an integrated discussion that draws the results of the critical review and the two empirical studies of the thesis. The purpose of this chapter is to condense the main findings of the research and discuss them in light of the overall thesis aims and within the context of potential implications for clinical practice. Given that the results of each empirical study have been discussed extensively in previous chapters, this discussion will only focus on the main findings.

The present research advances understanding of the differentiating features of AITs and aggressive script rehearsal. The critical review identified that some of the features used in the characterisation of intrusive thoughts may be common to the experience of aggressive script rehearsal. Specifically, similar to AITs, aggressive scripts may be experienced as frequent and recurrent, and thought control strategies may be employed to manage aggressive scripts when then come to mind. However, the review also indicated that there is less

conclusive evidence for similarities in the emotional response to these phenomena and perceptions of their intrusiveness (e.g., whether they are intrusive or unwanted). Empirical investigation of AITs and aggressive script rehearsal in empirical paper one confirmed relevant theoretical underpinnings of the phenomena, including that AITs are not related to aggressive behaviour or violence supportive beliefs where aggressive script rehearsal is. Additionally, AITs were found to relate significantly with ego-dystonicity; however the role ego-dystonicity plays within aggressive script rehearsal remained unclear, as evidenced by reports of participants in study two. Here, the subjective experiences associated with aggressive thoughts were explored in a forensic sample. Several themes relevant to aggressive thought rehearsal were identified including how aggressive thoughts are associated with both positive and negative experiences, thereby countering suggestions that aggressive thinking is consistently and universally accepted and experienced positively within forensic populations.

This chapter also discusses methodological issues identified through the empirical investigations, as well as the limitations of the current research. This chapter concludes with an exploration of the implications of the research, including considerations for risk assessment and treatment of these phenomena. Future research directions are also discussed.

9.1 The Features of AITs and Aggressive Scripts

This research aimed to explore the phenomenology of AITs and aggressive scripts, and to identify differentiating features between these constructs to improve our understanding of these thought phenomena. Differentiation might be particularly relevant to violence risk assessment. The research identified similarities between AITs and aggressive scripts including the content of the thought, whether they are experienced as intrusive, spontaneous, are associated with feelings of unpleasantness and distress, and if thought control strategies are employed to manage these thoughts. Results suggests that differentiation between AITs

and aggressive scripts may occur with regards to how the thoughts are appraised, including if they are experienced as ego-dystonic or ego-syntonic, and relate to one's history and attitudes, including whether they hold violence supportive beliefs and if they have a history of violence behaviour. Results also highlighted how these features may influence the experience of an aggressive thought and how one engages with these thoughts subsequently. Specifically, Table six provides a summary of the similarities and differences between AITs and aggressive scripts to aid in the conceptual clarification.

Table 6. List of features and their presence in the experience of AITs or Aggressive Scripts

Features	AITs	Aggressive Scripts
Aggressive content theme, including harming loved ones	Y	Y
History of violence and aggression	N	Y
Violence supportive attitudes	N	Y
Frequent and recurrent	Y	Y
Intrusive	Y	Y
Spontaneous	Y	Y
Deliberately rehearsed	N	Y
Deliberately generated	N	Y
Disrupts functioning	Y	Y
Negative emotional experiences (e.g., distress and discomfort)	Y	Y
Positive emotional experiences (e.g., excitement, pleasure)	N	Y
Ego-dystonic (i.e., inconsistent with sense of self)	Y	?
Ego-syntonic (i.e., consistent with sense of self)	N	?
Obsessive beliefs	Y	Y
Thought control and neutralising behaviours	Y	Y

Note. AITs = Aggressive Intrusive Thoughts; Y = feature is present; N = feature is not present; ? = features' relevance to construct requires more exploration

9.1.1 Similarities in Phenomenology of AITs and Aggressive Scripts

The content of AITs and aggressive scripts both concern thoughts about harming another person, which for both can be related to loved ones or unrelated others. Consistent with the cognitive behavioural model of OCD, findings demonstrated that the consequences associated with the experience of AITs are dependent on how the thoughts are appraised by the individual, and this appraisal process is influenced by maladapive beliefs. Further, the results from this thesis demonstrate that individuals with a history of violent behaviour can experience aggressive thoughts related to people they care for, and that the negative emotional reactions to these thoughts (e.g., distress, discomfort, unwanted) can be experienced similarly to that which has been reported in individuals with AITs in OCD. These findings are consistent with prior research that has examined the emotional sequalae associated with aggressive script rehearsal, where there is some evidence to suggest that aggressive thoughts experienced by individuals with a history of violent behaviour can be experienced as ego-dystonic, be associated with negative emotions (e.g., sadness, distress, fear, disgust; Hosie et al., 2021; Patel, 2015), and can impact general well-being (Poon & Wong, 2021). However, there is also evidence that some aggressive scripts can be regarded positively, depending on the thought content, as evidence by the results of study two and consistent also with Hosie and colleagues (2021).

Given there has been few empirical explorations of aggressive scripts, our previous understanding of the experiences associated with aggressive scripts was limited. Results from this thesis demonstrate that aggressive scripts can be associated with some of the array of features pertinent to AITs in OCD, including that they are experienced as frequent and recurrent, and are associated with thought control strategies. The critical review identified that it was unclear whether aggressive script rehearsal was related to features of unwantedness and intrusiveness. However, further research from this thesis identified that

aggressive script rehearsal may be related to the features of intrusiveness, spontaneity, unwantedness, and disruption of functioning. The results suggest that aggressive thoughts, operationalised as aggressive script rehearsal, can indeed be experienced by individuals with a history of violence as intrusive, disruptive, and distressing, but these features are dependent on the aggressive thought content type (e.g., related to loved ones or people they care for). This is consistent with phenomenological explanations of AITs in OCD (Moulding, Aardema, et al., 2014a), where the appraisal of the thought experience is an important factor in determining the clinical significance of the symptom. Based on descriptions provided by respondents in empirical study two, it appears that when an aggressive thought is experienced as unpleasant and distressing, it is not likely associated with intent towards or elaborations of aggressive behaviour, suggesting a potential interaction with ego-dystonicity. These results may also suggest that individuals with a history of violence may experience AITs and aggressive scripts concurrently and that simply because somebody with a history of violence experiences an aggressive though does not mean that thought is welcomed or experienced pleasurably, however limits to current measurements and operational defintions of these constructs influence adequate differentiation. Current models of aggression that include consideration of script rehearsal such as the GAM do not give much consideration of how one's interpretation of an aggressive script, such as whether the thought is inconsistent with one's sense of self (i.e., ego-dystonic) or not, may influence the experience of the thought and behavioural outcomes. The findings from this thesis elaborate aggressive scripts and have important theoretical implications, suggesting that the specific content of the aggressive thought, and differential features such as pleasant or unpleasant emotions, ego-dystonicity, attitudes supporting violence, and a history of violence may prove important.

Another feature of similarity between AITs and aggressive script rehearsal concerns the use of thought control strategies to manage aggressive thought experiences. Consistent

with prior research (Jacoby et al., 2015), these results indicate that certain thought control strategies, such as punishment and worry, were associated with greater OC symptoms. This is in accordance with cognitive behavioural models of OCD that question the efficacy of compulsive, neutralising, and avoidance strategies in OCD (Clark, 2004; Salkovskis, 1989). While these strategies and mechanisms of control may alleviate the distress caused by the intrusive thought in the short term, their use may be detrimental in maintaining intrusive thought experiences over time (Ahern et al., 2015). With regards to aggressive scripts, this thesis identified that the use of thought control strategies, either in the form of direct distraction (e.g., listening to music, going for a drive) or experiential avoidance (e.g., removing oneself from or avoiding situations that elicit aggressive thoughts) were associated with reductions in aggressive thinking. Consistent with prior research on aggressive thoughts (Nagtegaal et al., 2006), the results suggest that the use of distraction or experiential avoidance may reduce one's engagement with their aggressive thinking, and limit the likelihood of aggressive behaviour. Further, although thought control strategies are used in both the experience of AITs and aggressive script rehearsal (Jacoby et al., 2015; Nagtegaal et al., 2006), it is not yet clearly understood whether avoidance strategies for aggressive scripts have the same negative long-term effects (i.e., increase thoughts over time) as they do with AITs in OCD. Further research is required to acertain the efficacy of thought control and avoidance strategies for aggressive scripts, and the influence these strategies may have in preventing aggressive behaviour.

9.1.2 Differences in Phenomenology of AITs and Aggressive Scripts

It has been reported that AITs in OCD differ from other thought phenomena because of the way they are experienced as unwanted, and distressing to the individual and are inconsistent with their sense of self and conduct (Clark, 2005; Moulding, Aardema, et al., 2014a; Purdon et al., 2007; Rowa & Purdon, 2003). Based on the findings from this thesis,

some of these features, including feelings of distress and unwantedness, may also be relevant to aggressive script rehearsal in individuals with a history of violence and thus cannot be relied upon as factors for differentiation the phenomena. The critical review into the features of AITs and aggressive scripts revealed that aggressive scripts may differ from AITs in the way that they are deliberately rehearsed, and how one's life history of aggression plays a significant role in influencing the rehearsal of the scripts.

It has long been held that the AITs in OCD are not associated with acts of aggression, and that the appearance of AITs in OCD should not be considered risk indicators for violence due to their ego-dystonic nature (Veale et al., 2009). As expected, AITs were not associated with violence supportive attitudes and a history of aggressive behaviour. These findings are consistent with cognitive models of OCD (Rachman, 1997; Salkovskis, 1985) that emphasise the ego-dystonic and abhorrent nature of intrusive thoughts in OCD. These cognitive models stipulate that the experience of intrusive thoughts that are inconsistent with the self are appraised as abhorrent to the self, influencing feelings of distress and attempts to control or prevent the perceived consequences associated with the thought (Rachman, 1997, 1998). Further, increased frequency of AITs are not associated with violence risk, whereas in forensic contexts, the frequency of aggressive scripts is commonly used as a risk indicator (Grisso et al., 2000).

Consistent with prior research (Hosie, Dunne, et al., 2022; Kelty et al., 2011), aggressive script rehearsal was associated with anger rumination, violence supportive beliefs, and a history of aggressive behaviour. This is consistent with understandings of script rehearsal, where according to Script Theory (Huesmann, 1998) aggressive scripts may be strengthened through the influence of violence supportive beliefs and behaviours that condone violence. Both empirical studies of this thesis identified that violence supportive attitudes, such as believing that violence should be tolerated and used in situations of

provocation, were associated with aggressive script rehearsal. Further, findings from the qualitative study suggest that engaging in rumination on past provocations and experiences of anger, likely perpetuates the rehearsal of aggressive thoughts. These findings align with the Multiple Systems Model (Denson, 2013) of anger rumination whereby perseverative thinking of anger inducing regarding events or past provocations may influence feelings of anger and thoughts of revenge (Sukhodolsky et al., 2001). Overall, these findings support the importance of considering one's attitudes towards violence and history of aggression in the clinical assessment of aggressive thoughts, as they have been reliably identified as relevant features of aggressive script rehearsal (Hosie, Simpson, et al., 2022). Further, understanding how the experience of aggressive thoughts align with one's sense of conduct and previous behaviours may likely prove beneficial in determining one's risk for aggressive behaviour in future.

The emotional reactions associated with AITs in OCD have been consistently identified as negative in nature, including feelings of distress, shame, disgust, and fear (Moulding, Aardema, et al., 2014a; Rowa & Purdon, 2003). Limited hypotheses could be made regarding the subjective experiences associated with aggressive script rehearsal as empirical investigations have been scarce. Understanding the emotional experiences associated with aggressive script rehearsal may help inform assessments of these phenomena and identify features related to aggressive behaviour. In line with prior research (Hosie et al., 2021; Hosie, Dunne, et al., 2022; Patel, 2015), aggressive thoughts reported by individuals with a violent history can be associated with negative experiences, and the emotional reactions to the thoughts can be diverse (Hosie, Dunne, et al., 2022). While the results indicated that individuals with a history of aggressive behaviour or anger problems may report that their aggressive thoughts are negative experiences and are associated with negative affect (e.g., distress, unpleasantness), the same individuals also reported pleasant

emotional experiences with other aggressive thought types. These findings suggest that one's emotional experience associated with aggressive thoughts is dependent on the thought content, is likely idiosyncratic, and may be influenced by the degree to which individuals regard their aggressive thought as ego-dystonic or ego-syntonic. These results also suggest that the relationship between aggressive script rehearsal and emotional experiences is complex, and may not follow a linear trend.

Cognitive models of OCD posits that intrusions are consistently reported as ego-dystonic and experienced as inconsistent with an individual's sense of self and previous behaviour (Purdon et al., 2007; Rachman, 1997; Salkovskis, 1985). Consistent with these cognitive models of OCD, empirical study one highlighted the possibility that ego-dystonicity may be used as a differentiating factor between AITs and aggressive script rehearsal. However, with further exploration of these constructs, empirical study two identified that while some aggressive thoughts were experienced as ego-dystonic to some participants, elements of ego-syntonicity (i.e., consistent with one's sense of self, beliefs, and previous behaviours) were also described by some participants in relation to their aggressive thought experiences. It was evident by participants descriptions in empirical study two that the experience of ego-syntonic aggressive thoughts were deliberately engaged with, welcomed, and sought after. This is consistent with conceputalisations of aggressive thinking within Script Theory and the GAM whereby the frequent rehearsal of aggressive scripts is likely to be accommodated and normalised by the individual with little resistance (Huesmann, 1988). These findings suggest that it may be likely that ego-syntonic aggressive thoughts that are deliberately engaged with and align with one's sense of conduct and previous behaviours, may be an important indicator for future risk behaviours. There is also some indication from these findings that aggressive scripts may be distinguished from AITs on the basis of ego-syntonicity and positive emotional responses, as these features are not

common within intrusive thought phenomenology. Considering this, it is important to highlight that a person may experience both aggressive scripts and AITs, however, it is the characterisation of these thoughts in relation to the individual's sense of self that may prove as an important indicator of differentiation between these two constructs. How one's sense of self is implicated through the experience of aggressive thoughts may influence the way it is interpreted and elaborated on. Further, it remains unclear whether the experience of ego-dystonicity follows a transient process in individuals with a history of violence. As posited by Purdon et al. (2007), when repugnant thoughts in OCD are repeatedly experienced, ego-dystonic thoughts may become more ego-syntonic as they are accommodated into a person's sense of self. It is important to note that the measurement of ego-dystonic aggressive thoughts in individuals with a history of violence should consider if one believes their thought is inconsistent with their sense of self, but also if their aggressive thought is inconsistent with one's prior experiences, behaviours, and conduct. Further, it is worth noting that the operationalisation of ego-dystonicity and ego-synotnicity should consider these constructs on a spectrum, where some thoughts may be percieved as more ego-dystonic/ego-synotinic than others. Neverthless, the relationship between ego-syntonicity and aggressive thoughts in those with a history of aggressive behaviour warrants further empirical investigation.

Further, the occurrence of AITs has been suggested to be internally generated without an identifiable source (see: autogenous obsessions; Lee & Kwon, 2003). Contrastingly, aggressive scripts have been described as often being deliberately generated to have a planning function (Gilbert & Daffern, 2017) or to assist in the regulation of emotion (Hosie, Dunne, et al., 2022). Some participants described that their aggressive thoughts were deliberately generated and elaborated, and that they were used as a form of escapism to imagine solutions for their problems. Aggressive thoughts were described as easily triggered, in particular by mood, and perpetuated by anger. Consistent with Script Theory (Huesmann,

1988, 1998) and the Multiple Systems Model (Denson, 2013), the rehearsal of aggressive scripts was associated with anger rumination, and respondents with a violent history described that their aggressive thoughts were likely precipitated and motivated by feelings of anger. These results support current formulations of aggressive script rehearsal (Gilbert & Daffern, 2017), and highlight the importance of considering one's mood and rumination behaviours when exploring aggressive thought features.

9.2 Limitations

9.2.1 Sample

While this thesis sampled participants from two diverse population groups, a non-clinical sample and a sample of individuals with a history of violence, generalisability of results may be limited. Empirical study one utilised a reliable methodology, including relevant measures of phenomenology, however, the study was conducted in a non-clinical sample so replication with a clinical sample of participants (people with OCD and people with a history of violence) is necessary to confirm the findings as they pertain to OCD symptoms and aggressive script rehearsal.

Empirical study two is limited by the small male forensic sample, and while results may be limited in generalisability, the qualitative aspect of the study highlights the importance of using certain questions to enquire about one's experience with aggressive thinking (e.g., how do you feel when you experience the aggressive thoughts?). It is therefore recommended that this form of questioning and qualitative investigation be replicated with a larger sample of individuals who have extensive histories of violent behaviour. Finally, empirical study two was unable to compare the experience of aggressive thinking in a forensic sample with individuals diagnosed with OCD who experience AITs. Although there is extant literature in OCD exploring the subjective experiences associated with intrusive thought experiences, it would be useful for a study to replicate the methodology of empirical

study two with an OCD sample to allow for direct comparisons. This comparison would improve the understanding of the features and properties of AITs and how they protect against aggressive behaviour, as well as how they differ from aggressive scripts. Replication of this empirical study and including a sample of participants diagnosed with OCD and who experience AITs is recommended.

9.2.2 Measurement

The measures used in this thesis were selected as they are the only and best known instruments and have been shown to reliably associate with their corresponding construct (e.g., obsessive beliefs relates to AITs; history of aggressive behaviour relates to aggressive script rehearsal). As highlighted in the critical review, the interview quality including the type of questioning, and the respondents understanding of what constitutes the thought being investigated (e.g., being prompted of what an intrusive thought is) are important components that need to be considered when measuring these phenomena. Both empirical studies in this thesis identified similarities in the measurement of AITs and aggressive scripts, whereby the instruments used to measure these constructs question participants on experiencing a thought about harming another person in a similar way. Further, the interviews in empirical study two further highlighted the lack of operational distinction between aggressive scripts and AITs, presenting difficulties in being able to differentiate whether participants were reporting an aggressive script, or an AITs.. While the QUIT and SIV both contain further questioning to gather information about the features related to the construct, the initial question regarding whether the participant experiences a thought about harming another person can be reported as present in both instances, even though AITs and aggressive scripts are believed to be distinct constructs. Further, the QUIT is able to contextualise what constitutes an AIT by providing respondents with a preamble of the characteristics and features of intrusive thoughts more generally. Current versions of the SIV have not yet included a descriptor of

aggressive scripts and this may have implications on respondents identifying the correct cognitive experience. Given that empirical study two and prior research (Hosie et al., 2021; Patel, 2015) have found that aggressive scripts may be associated with negative emotions such as distress, sadness, and shame, whether aggressive scripts and AITs can be differentiated by emotional reactions requires further exploration. Further, differentiation of AITs and aggressive script rehearsal becomes difficult as the current measures do no enquire whether a history of aggressive behaviour or violence supportive beliefs are present. These factors have been reliably found to associate with aggressive script rehearsal (Gilbert et al., 2013; Hosie, Dunne, et al., 2022) and appear to discriminate scripts from AITs, as evidenced by empirical study one's results. By including these factors within a comprehensive measure of aggressive thinking it would provide helpful information to begin distinguishing between AITs and aggressive scripts in an assessment context.

9.3 Implications of Research

The following section explores the implications for future research, including the measurement of AITs and aggressive scripts. It also addresses the implications of the research on the assessment and treatment of aggressive thoughts, including recommendation for the differentiation of AITs from aggressive script rehearsal.

9.3.1 Future Research Directions

The current research provides a basis for understanding the similarities and differences between AITs and aggressive script rehearsal. This research has created a foundation for further empirical examination of these phenomena through the consideration of the GAM, Script Theory, and the cognitive-behavioural model of OCD. Future research is therefore recommended to validate the relationships found and to improve current definition and measurements of AITs and aggressive scripts. The replication of empirical study two

with a sample of individuals with an extensive criminal history, and a comparison sample of individuals diagnosed with OCD who report AITs, will extend the implications of the results and provide clearer understandings of the definitions of these constructs. Further, a measurement tool that includes questions exploring one's history of aggressive behaviour, violence supportive beliefs, and how one interprets their thought and its contents (e.g., ego-dystonic versus ego-syntonic) would be beneficial for the assessment of aggressive thinking, and to differentiate between AITs and aggressive scripts. The development of guidelines to help to differentiate these similar phenomena and provide diagnostic clarification may also prove beneficial for the assessment and treatment of these aggressive thoughts. Table 6 above may provide a foundation for measurement development. Further research on the experience of ego-dystonic and ego-syntonic thoughts in relation to aggressive thinking is also required. By understanding which aspects of one's self may relate to aggressive thoughts, and how this may impact upon behavioural outcomes, it may refine current understandings of the relationship between aggressive thinking and ego-dystonicity. It is also recommended that future research consider examining the efficacy of certain question types in mearusing

9.3.2 Assessment Implications

The results from this thesis have highlighted several implications for the assessment of aggressive thinking. Results demonstrate that AITs and aggressive scripts may be differentiated by factors relating to a history of aggressive behaviour, violence supportive beliefs, and how one experiences their thoughts (e.g., ego-dystonic versus ego-syntonic). For example, AITs were found to not associate with history of violence or criminal attitudes, and were related to ego-dystonicity. Further, in individuals with a history of aggressive behaviour or problems with anger, it was identified that pleasurable scripts were likely to be experienced as consistent with one's sense of self and conduct (i.e., ego-syntonic), whereas aggressive thoughts experienced as distressing or unwanted were interpreted as being

inconsistent with one's intentions (i.e., ego-dystonic). The following section provides an overview of recommendations for the assessment of aggressive thoughts, including the exploration of specific features important in differentiating between AITs and aggressive scripts. Table 7 provides a list of example assessment questions that may aid in the exploration of relevant features pertinent to AITs and aggressive scripts.

Table 7. Example questions for the assessment of differential features of AITs and aggressive scripts

Feature	Assessment Question/Prompts
Content	• What does the aggressive thought involve? • What aggressive behaviour do you imagine doing? • Are the person(s) in the thought known to you, or are they strangers, or an imagined person? • What is your relationship to this person(s)?
Process	• Do you find yourself purposefully thinking about these thoughts, or do they appear out of the blue? • What causes these thoughts to appear in your mind? • Do these thoughts occur after certain events or situations, or are they random? • Are you able to control the thoughts when they appear? Or do they feel uncontrollable? • Are these thoughts frequent? How often do they occur?
Appraisal	• What do you think these thoughts mean? • What do you think these thoughts say about you?
Emotional sequalae	• How do you feel when these thoughts appear in your mind? • Do you find these thoughts distressing, or are they pleasurable to you? • What part(s) of these thoughts are distressing? - Is it the content (i.e., the behaviour, the victims) - Is it the process (i.e., occurs randomly; frequently, or is something you cannot stop thinking about) - Is it the consequences associated with the thought, or the consequences of acting on the thought (i.e., thought is distracting; acting on the thought could involve criminal consequences) • What part(s) of these thoughts are pleasurable?
Ego-dystonicity and ego-syntonicity	• Could you see yourself behaving in the way the thought describes? Why/why not? • How does this thought align with your desires or intentions? Describe • How does the behaviour in the thought align with who you perceive you are? • Consider who you are; is this thought consistent or inconsistent with this sense of self? Describe
Previous history and attitudes	• Have you behaved [insert aggressive behaviour described in thought] in the past? • What do you think about aggressive behaviour more generally? Is it acceptable or not acceptable to you? • What are your attitudes towards violence? Do you consider it acceptable? Why/why not?

Firstly, when assessing aggressive thoughts, it is recommended that extensive information is gathered regarding the content of the thought, including potential victims, relationship to victim, and method and severity of aggressive behaviour being thought about.

Current risk assessment instruments do not consider certain features that this thesis has identified as important in differentiating similar phenomena concerning aggressive thoughts. Secondly, exploring the content of the thought with regards to one's appraisal of the thought and the meaning derived by the thoughts occurence is recommended. Thirdly, inquiring about the emotional experience associated with the thought, and how these thoughts fit with one's sense of self and conduct is recommended. Further, in determining the risk this thought poses, gathering information regarding one's history of aggressive behaviour, and their overall attitudes towards violence is essential. The thesis identified that aggressive scripts may be reported as distressing, and ego-dystonic to some degree by individuals with a history of violence. It is therefore essential for assessment of these thoughts to consider what aspects of the thought is distressing to the individual (e.g., the content, the frequent nature of it, or the consequences associated with acting on the thought), and the degree to which the thought is experienced as consistent with one's intentions, desires, or previous behaviour. Further, the rehearsal of aggressive scripts have been found to increase one's propensity towards aggressive behaviour (Daff et al., 2015), and thus form an important risk indicator for violence.

9.3.1 Clinical and Treatment Implications

Although several considerations for the treatment of AITs and aggressive scripts have surfaced from the findings of this thesis, it is important to highlight that the scope of this thesis was to understand the differentiating features between AITs and aggressive scripts. The results of this thesis may be useful in the early detection and understanding of aggressive thoughts predominately in an assessment setting, rather than treatment context. This includes gathering information about the characterstics of one's aggressive thoughts including features related to intrusiveness, frequency, emotional sequelae, ego-dystonicity and ego-syntonicity, attitudes towards violence, and prior violent behaviours. Nevertheless, treatment avenues

should consider the population group these thoughts are identified in, and appropriate models should be applied.

For example, in individuals with an offending history, research suggests that effective intervention depends on the level of consideration given to an individual's needs and risk levels (Andrews et al., 2011). Treatment should focus on understanding the features associated with aggressive scripts in individuals with a violent history, and exploring avenues for reducing the frequency of script rehearsal over time. This may include exploring thought control strategies or the use of behavioural monitoring, such as journaling, to explore potential antecedants of the script rehearsal. Given the variability in the emotional experience associated with aggressive script rehearsal, and the commonality of aggressive scripts in individuals with a violent history, treatment may focus on normalising the experience of aggressive thoughts and understanding one's subjective experience. Treatment for the experience of AITs in OCD should follow cognitive behavioural models of OCD that posit the importance of restructuring maladaptive beliefs that perpetuate obsessive and compulsive behaviours, as well as normalising the experience of unwanted intrusive thoughts (Clark, 2004).

This thesis has highlighted the potential factors that may be considered for differention in AITs and aggressive scripts, including the degree to which the thoughts are experienced as ego-dystonic, and one's history of violence. Thus, treatment should also consider the exploration of how one's aggressive thoughts, both in individuals with OCD and individuals with a violent history, align with their values, intentions, and sense of conduct. In situations where aggressive scripts are regarded as ego-syntonic by the individual, it may be beneficial to explore the prescence of certain of values that could be used to increase the experience of ego-dystonicity towards the aggressive script. Further, in the context of AITs

within OCD, the importance of considering maladaptive appraisals of the intrusive thought experience is emphasised by the results in this thesis.

9.4 Conclusion and Final Comments

Experiencing thoughts about harming another person is considered a normal phenomenon. However, in certain instances such as when experienced by individuals diagnosed with OCD or in individuals who have a history of aggressive behaviour, these thoughts may become problematic. The cognitive appraisal model of OCD emphasises the role that maladaptive beliefs and self-appraisals have in the experience of AITs, perpetuating the use of compulsive behaviours over time. Further, the GAM recognises that precursors of aggressive behaviour may be explained by the frequent rehearsal of aggressive scripts, a history of aggressive behaviour, and beliefs that normalise violence.

This thesis has explored the phenomena of AITs and aggressive scripts; two similar constructs in terms of content, but distinct with regards to potential behavioural outcomes. Overall, this thesis has identified some of the similarities and differences between AITs and aggressive scripts, and explored the subjective experiences of aggressive thoughts in individuals with a history of violence. This research has improved the understanding of what factors may differentiate AITs from aggressive scripts, including a history of violent behaviour, attitudes that support violence, and the recognition that one's aggressive thought is inconsistent with one's sense of self and conduct. Further, this research has highlighted the impact of belief systems and experiences, including how attitudes towards violence and obsessive beliefs may impact on how AITs or aggressive scripts are appraised and recognised. This research has the potential to improve understandings of aggressive thinking, including identifying factors that may protect against certain behaviours. Further, this thesis has identified issues that exist in current measures of AITs and aggressive scripts, which may encourage improvements to these measures in future research. Finally, the results of this

thesis may inform assessment and treatment approaches for AITs and aggressive scripts, aiding in the early detection of these thoughts to improve outcomes for those who report them.

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APPENDICES

Appendix A

Empirical Study One: Swinburne Research Ethics Committee Approval Certificate

Swinburne University of Technology Human Research Ethics Committee

Approval certificate

The ethics application for your project Exploring Phenomena of Intrusive Thoughts and Aggressive Thoughts: Associated Beliefs and Featureshas been approved.

Chief Investigator: A/Prof. Maja Nedeljkovic

Ref: 20190386-1937

Approved Duration: 08/11/2019 to 08/11/2022

I refer to the ethical review of the above project protocol by Swinburne's Human Research Ethics Committee (SUHREC) or its sub-committees.

I am pleased to advise that, as submitted to date, the project may proceed in line with standard on-going ethics clearance conditions outlined below.

- The approved duration is as shown above unless an extension request is subsequently approved.
- 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 (2018)* 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, and addition or removal of other personnel/students from the project, 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 from SUHREC for approval. 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.
- A duly authorised external or internal audit of the project may be undertaken at any time.
- Please forward this approval certificate to relevant members of the project team.

The following investigators have been approved to work on the project:

Chief Investigator

Maja Nedeljkovic

Associate Investigators

Michael Daffern, Richard Moulding

Student Investigators

Stephanie Fernandez

Please contact the Swinburne Research Ethics Office if you have any queries.

Regards,

Dr Astrid Nordmann

on behalf of

Research Ethics Office

Swinburne University of Technology

P: +61 3 9214 3845 | E: resethics@swin.edu.au

Subject: Ethics clearance: Exploring Phenomena of Intrusive Thoughts and Aggressive Thoughts: Associated Beliefs and Features
Date: Friday, 8 November 2019 at 2:25:00 pm Australian Eastern Daylight Time
From: donotreply@infonetica.net
To: mnedelkjovic@swin.edu.au
CC: RES Ethics, STEPHANIE FERNANDEZ, Michael Daffern, Richard Moulding
Attachments: Letter.pdf

Dear All,

Ref: 20190386-1937 : Exploring Phenomena of Intrusive Thoughts and Aggressive Thoughts: Associated Beliefs and Features

Your ethics application has been approved. Please see the attachment for details of the approval.

Please contact the Swinburne Research Ethics Office if you have any queries.

Regards,

Dr Astrid Nordmann

Research Ethics Office

Swinburne University of Technology

P: +61 3 9214 3845 | E: resethics@swin.edu.au

Appendix B

Empirical Study Two: Swinburne Research Ethics Committee Approval Certificate

Swinburne University of Technology Human Research Ethics Committee

Approval certificate

30/06/2021

The ethics application for your project Exploring Phenomena of Aggressive Intrusive Thoughts and Aggressive Scripts - Associated Beliefs and Features has been approved.

Chief Investigator: Maja Nedeljkovic

Ref: 20215556-7961

Approved Duration: 30/06/2021 to 30/06/2023

I refer to the ethical review of the above project protocol by Swinburne's Human Research Ethics Committee (SUHREC) or its sub-committees.

I am pleased to advise that, as submitted to date, the project may proceed in line with standard on-going ethics clearance conditions outlined below.

- The approved duration is as shown above unless an extension request is subsequently approved.
- 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 (2018)* 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, and addition or removal of other personnel/students from the project, 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 from SUHREC for approval. 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.
- A duly authorised external or internal audit of the project may be undertaken at any time.
- Please forward this approval certificate to relevant members of the project team.

This research project was approved during COVID-19 restrictions. The conduct of the research during this period should reflect any changes in relation to university and government COVID-19 mandates in the relevant jurisdictions. To ensure you have accommodated these mandates please refer to the Swinburne Ethics COVID-19 website here.

The following investigators have been approved to work on the project:

Chief Investigator

Maja Nedeljkovic

Associate Investigators

Richard Moulding, Michael Daffern

Student Investigators

Stephanie Fernandez

Please contact the Swinburne Research Ethics Office if you have any queries.

Regards,

Ms Leah Barham

on behalf of

Research Ethics Office

Swinburne University of Technology

P: +61 3 9214 8145 | E: resethics@swin.edu.au

Subject: Ethics clearance: Exploring Phenomena of Aggressive Intrusive Thoughts and Aggressive Scripts - Associated Beliefs and Features

Date: Wednesday, 30 June 2021 at 5:46:04 pm Australian Eastern Standard Time

From: donotreply@infonetica.net

To: Maja Nedeljkovic

CC: RES Ethics, STEPHANIE FERNANDEZ, richard.moulding@cairnmillar.edu.au, Michael Daffern

Attachments: Letter.pdf

Dear All,

Ref: 20215556-7961 : Exploring Phenomena of Aggressive Intrusive Thoughts and Aggressive Scripts - Associated Beliefs and Features

Your ethics application has been approved. Please see the attachment for details of the approval.

Please contact the Swinburne Research Ethics Office if you have any queries.

Regards,

Ms Leah Barham

Research Ethics Office

Swinburne University of Technology

P: +61 3 9214 8145 | E: resethics@swin.edu.au

Appendix C

Empirical Study Two: Forensicare Operational Research Committee

14 July 2021

ABN 32 807 323 885
Yarra Bend Road
Fairfield Victoria 3078
T +61 3 9495 9100
F +61 3 9495 9190
E info@forensicare.vic.gov.au
www.forensicare.vic.gov.au

A/Prof. Maja Nedeljkovic,
Swinburne University

Dear A/Prof. Maja Nedeljkovic,

Re: Exploring Phenomena of Aggressive Intrusive Thoughts and Aggressive Scripts: The Influence of Associated Beliefs and Features

The Forensicare Operational Research Committee has completed a full review of your research application. The Committee has given operational approval for your research to be conducted at Forensicare. This approval is subject to the following:

- Provision of evidence of approval by the Swinburne University Human Research Ethics Committee. Please forward a copy of the approval letter from the Research Ethics Committee as soon as it is received. You may not commence the research until evidence of ethical approval has been provided.
- Approval is given for the period between the anticipated commencement and completion dates as set out in the documentation. If the study has not been completed by the nominated completion date, an application for extension will be required.
- To enable the Committee to meet its obligations in relation to monitoring Forensicare's research program, you are required to provide brief annual progress reports upon request each year the study is in progress to cover the previous financial year (regardless of project start date). A Final Report and lay summary of findings must be provided within 60 days of the completion of the project.
- Forensicare is committed to the dissemination and translation of research outcomes. As such, researchers must make reasonable efforts to engage in appropriate dissemination activities upon request. This includes the preparation of a brief report, or presentation of the study findings to Forensicare staff or consumers.

Failure to comply will lead to the withdrawal of approval and suspension of the research project. In addition, any adverse events need to be notified promptly to the Operational Research Committee as well as the approving Human Research Ethics Committee. Please ensure that the Operational Research Committee is notified of any matter that arises that may affect the conduct of the approved program.

Appendix D

Study one: Advertising material for students

PARTICIPANTS NEEDED

Project Title: Exploring Phenomena of Intrusive Aggressive Thoughts and Aggressive Thoughts: Associated Beliefs and Features

Researchers at Swinburne University of Technology are investigating the experience of intrusive aggressive thoughts, and their associated beliefs. Most individuals have experienced an unpleasant or disturbing thought during their life and sometimes these thoughts occur spontaneously and without provocation. This common experience is said to occur in approximately 93% of individuals at some point in their life, and is referred to as an intrusive thought. By examining these areas it will increase our understanding of intrusive thoughts and how belief systems may be implicated in the process of aggressive thinking.

What does my participation require?

You will be asked to respond to several questionnaires asking about aggressive intrusive thoughts, beliefs about yourself, others and the world, and your attitudes towards aggression and violence. The questionnaire will take approximately 45 minutes to complete.

You are able to take part in the research project if you:

- Are 18+ years of age

If you are a Swinburne Psychology student, you are able to receive 1 course credit for your participation.

If you are interested in participating please follow the link:

Stephanie Fernandez

Email: sfernanez@swin.edu.au

Appendix E

Study one: Advertising material for social media

SWINBURNE UNIVERSITY OF TECHNOLOGY

PARTICIPANTS NEEDED

DEAKIN UNIVERSITY

Project Title: Exploring Phenomena of Intrusive Aggressive Thoughts and Aggressive Thoughts: Associated Beliefs and Features

Researchers at Swinburne University of Technology are investigating the experience of intrusive aggressive thoughts, and their associated beliefs. Most individuals have experienced an unpleasant or disturbing thought during their life and sometimes these thoughts occur spontaneously and without provocation. This common experience is said to occur in approximately 93% of individuals at some point in their life, and is referred to as an intrusive thought. By examining these areas it will increase our understanding of intrusive thoughts and how belief systems may be implicated in the process of aggressive thinking.

What does my participation require?

You will be asked to respond to several questionnaires asking about aggressive intrusive thoughts, beliefs about yourself, others and the world, and your attitudes towards aggression and violence. The questionnaire will take approximately 45 minutes to complete.

You are able to take part in the research project if you:

- Are 18+ years of age
- Currently live in Australia

Your participation can put you in the draw to win 1 of 4 $100 voucher (Coles)

If you are interested in participating please follow the link:
https://swinuw.au1.qualtrics.com/jfe/form/SV_3q3gWX6ym6YzZHv

Stephanie Fernandez

Appendix F

Consent Information Statement

Project Title: Exploring Phenomena of Intrusive Aggressive Thoughts and Aggressive Thoughts: Associated Beliefs and

Investigator(s): Associate Professor Maja Nedeljkovic, (Chief Investigator, supervisor)

Professor Michael Daffern, (Secondary Supervisor)

Dr Richard Moulding, (Co-supervisor)

Miss Stephanie Fernandez, (Student Investigator)

Introduction to Project and Invitation to Participate

This Consent Information Statement provides a detailed background about the research project. The purpose of this statement is to explain to you as openly and clearly as possible the procedures involved in this project before you decide whether or not you would like to participate in it.

Once you have understood what the survey will involve and if you agree to take part in it, you will be asked to complete a survey. Proceeding with the study indicates that you understand the information about the project and you give consent to be involved in the project. You are free to withdraw from the project at any time.

What is the Project About and Why is it being Undertaken?

Most individuals have experienced an unpleasant or disturbing thought during their life and sometimes these thoughts occurs spontaneously and without provocation. This common experience is said to occur in approximately 93% of individuals at some point in their life, and is referred to as an intrusive thought. Of particular interest to the current study are intrusive aggressive thoughts and how they are experienced by the individual. The present study aims to explore how aggressive intrusive thoughts, and aggressive thoughts more generally, are experienced by the general population. Additionally, we aim to examine how certain beliefs individuals have about themselves, others, and aggression may relate to the experience of intrusive aggressive thoughts. By examining these areas it will increase our understanding of intrusive thoughts and how belief systems may be implicated in the process of aggressive thinking.

Project and Researcher Interests

The project is a partial requirement of the Doctor of Psychology (Clinical and Forensic) program for Stephanie Fernandez.

What Participation will Involve

In this study you will asked to complete a battery of self-report questionnaires. The questionnaires will relate to topics such as aggressive intrusive thoughts and your beliefs, feelings, and reactions towards these. Following this, you will be asked questions relating to your beliefs about aggression and violence, and also your experience with aggressive-type behaviours. **The questionnaire will take approximately 45 minutes to complete. Please note that some of the questions asked during this project may be of a sensitive nature (e.g., description of aggressive intrusive thoughts; aggressive-type attitudes and behaviours).** *A pop-up notification will be provided to you before sensitive questions are*

presented. If you are uncomfortable with these types of questions you may choose to skip them, you can withdraw from the study at any time. Your responses to the questions will be recorded anonymously, and thus will be untraceable to you. While this study will be asking you about symptoms of OCD, Anxiety and Depression, we are seeking participants without a diagnosis of a mental illness. If you have a mental illness and wish to participate, you are free to do so, but participation may be found confronting. It is also important to note that we cannot provide diagnosis on the basis of these questions, and if you have concerns about experiencing any of these symptoms you should contact your relevant health professional (e.g., general practitioner, psychologist). Also, some of the questions may be particularly confronting for individuals who have experienced violence or trauma. If you believe that your participation may cause significant distress you may choose not to participate.

Participant rights and interests

Although you may not experience any direct benefits from having taken part in the study, the results that you contribute towards will help us in understanding aggressive intrusive thoughts and their subjective experience.

It is important to understand that your participation in this project is voluntary and you can withdraw at any time. If you do not wish to take part in this study, you have no obligations to do so. You can choose to not answer questions if you are uncomfortable answering. If you decide to take part in the project and later change your mind, you are free to withdraw from the project at any time. Your decision of whether to take part or not, and the withdraw, will not affect your relationship with Swinburne University of Technology.

Additionally, if participation in the project is causing any distress or discomfort please note that you can stop participation at any time without providing reason or explanation.

Support services and facilities

If you are experiencing a crisis, cannot contact a counsellor and need help urgently phone Lifeline on 131 114 or the Suicide Help Line on 1300 651 251. For international support please visit: www.befrienders.org

Appointments for counselling are also available at the Swinburne Psychology Clinic for a low cost at the Hawthorn campus George Swinburne (GS) Building, 34 Wakefield Street, Level 4. Phone: (03) 9214 8653

If you are a Swinburne Student, counselling and psychological services are available free of charge via Student Services, Health and Wellbeing Clinic. Phone: (03) 9214 8483

Research output

The results derived from this project will be analysed and summarised in the Doctoral thesis of Stephanie Fernandez. It is hoped that the present study will be published in a journal and presented at national/international conferences. The anonymous group data may be used in future research on aggressive intrusive thoughts conducted by the researchers. At no point will individual responses be identifiable.

Data Management

Data from the study will be stored in an electronic format and stored on a password protected, secure computer only accessible by the researchers named on this application

If you would like further information about the project:

Please do not hesitate to contact:

Associate Professor Maja Nedeljkovic, Clinical Psychologist and Lecturer

Department of Psychological Sciences, Swinburne University of Technology

mnedeljkovic@swin.edu.au , Tel No(s): (03) 9214 4428

Concerns/complaints about the project – who to contact:

This project has been approved by or on behalf of Swinburne's Human Research Ethics Committee (SUHREC) in line with the *National Statement on Ethical Conduct in Human Research*. If you have any concerns or complaints about the conduct of this project, you can contact:

Research Ethics Officer, Swinburne Research (H68),

Swinburne University of Technology, P O Box 218, HAWTHORN VIC 3122.

Tel (03) 9214 3845 or +61 3 9214 3845 or resethics@swin.edu.au

Appendix G

Debriefing Statement

DEBRIEFING STATEMENT

Project Title: Exploring Intrusive Aggressive Thoughts, and their Associated Beliefs and Features

Investigator(s): **Associate Professor Maja Nedeljkovic,** (Chief Investigator, supervisor)

Professor Michael Daffern, (Secondary Supervisor)

Dr Richard Moulding, (Co-supervisor)

Miss Stephanie Fernandez, (Student Investigator)

Thank you for your participation. This sheet contains more detailed information about the purpose of the study and what we hope to achieve.

The present study aims to explore how aggressive intrusive thoughts, and aggressive thoughts more generally, are experienced by the general population. The independent variables are aggressive thoughts and beliefs, and the dependent variable are the symptoms of Obsessive Compulsive Disorder. We are specifically interested in examining how certain beliefs individual have about themselves, others, and aggression may relate to the experience of intrusive aggressive thoughts.

The information gathered from this study will help us gain better understanding of the factors that may influence aggressive intrusive thoughts, and how belief systems may be implicated

in the process of aggressive thinking **If you would like further information about the project:**

Please do not hesitate to contact:

Associate Professor Maja Nedeljkovic, Clinical Psychologist and Lecturer

Department of Psychological Sciences, Swinburne University of Technology

mnedeljkovic@swin.edu.au , Tel No(s): (03) 9214 4428

Support services and facilities

If you are experiencing a crisis, cannot contact a counsellor and need help urgently phone Lifeline on 131 114 or the Suicide Help Line on 1300 651 251. For international support please visit: www.befrienders.org

Appointments for counselling are also available at the Swinburne Psychology Clinic for a low cost at the Hawthorn campus George Swinburne (GS) Building, 34 Wakefield Street, Level 4. Phone: (03) 9214 8653

If you are a Swinburne Student, counselling and psychological services are available free of charge via Student Services, Health and Wellbeing Clinic. Phone: (03) 9214 8483

Concerns/complaints about the project – who to contact:

This project has been approved by or on behalf of Swinburne's Human Research Ethics Committee (SUHREC) in line with the *National Statement on Ethical Conduct in Human Research*. If you have any concerns or complaints about the conduct of this project, you can contact:

Research Ethics Officer, Swinburne Research (H68),

Swinburne University of Technology, P O Box 218, HAWTHORN VIC 3122.

Tel (03) 9214 3845 or +61 3 9214 3845 or resethics@swin.edu.au

Appendix H

Study two: advertising material for OCD sample

Forensicare

SWINBURNE UNIVERSITY OF TECHNOLOGY

Cairnmillar INSTITUTE

PARTICIPANTS WITH A DIAGNOSIS OF OCD NEEDED

Project Title: Exploring Phenomena of Intrusive Aggressive Thoughts and Aggressive Thoughts: Associated Beliefs and Features

Researchers at Swinburne University of Technology are investigating the experience of intrusive aggressive thoughts. Most individuals have experienced an unpleasant or disturbing thought during their life and sometimes these thoughts occur spontaneously and without provocation. The current study is interested in examining individuals' subjective experience associated with aggressive intrusive thoughts and aggressive thinking, exploring the role associated beliefs have on experience of these thoughts. By examining these experiences we hope to increase our understanding of intrusive thoughts and how beliefs about these experiences may be implicated in the process of aggressive thinking.

What does my participation require?

You will be asked to complete several questionnaires asking about your experience with aggressive thoughts. You will also be asked about the beliefs you hold about yourself, others and the world, and your attitudes towards aggression and violence.

- An interview will be conducted to further explore your experience of aggressive intrusive thoughts, and aggressive thoughts more generally
- The interview will take approximately 2 hours to complete

Am I eligible to participate?

To be eligible for research participation, you will: (a) be aged 18+, (b) have a diagnosis of OCD, (c) do not have a past or present experience of psychosis, (d) identify as either male, female, or gender non-specific, (e) have the capacity to provide informed consent, (f) have English skills that will allow for conversation during interviews.

For participating you will be offered a $30 Coles Voucher

If you are interested in participating, please provide your details using the following link:

tinyurl.com/kw6krfmw

Stephanie Fernandez will be in contact with you to discuss the study

Email: sfernandez@swin.edu.au

Appendix I

Empirical Study Two: advertising material for CFMHS sample

Forensicare

SWINBURNE UNIVERSITY OF TECHNOLOGY

Cairnmillar INSTITUTE

PARTICIPANTS NEEDED FOR A STUDY

Project Title: Exploring Phenomena of Intrusive Aggressive Thoughts and Aggressive Thoughts: Associated Beliefs and Features

Researchers at Swinburne University of Technology are investigating the experience of intrusive aggressive thoughts. Most individuals have experienced an unpleasant or disturbing thought during their life and sometimes these thoughts occur spontaneously and without provocation. The current study is interested in examining individuals' subjective experience associated with aggressive intrusive thoughts and aggressive thinking, exploring the role associated beliefs have on experience of these thoughts. By examining these thoughts we hope to increase our understanding of intrusive thoughts and how beliefs about these experiences may be implicated in the process of aggressive thinking.

What does my participation require?

You will be asked to complete several questionnaires asking about your experience with aggressive thoughts. You will also be asked about the beliefs you hold about yourself, others and the world, and your attitudes towards aggression and violence.

- An interview will be conducted to further explore your experience of aggressive intrusive thoughts, and aggressive thoughts more generally
- The interview will take approximately 2 hours to complete

Am I eligible to participate?

To be eligible for research participation, you will: (a) be aged 18+, (b) do not have a past or present experience of psychosis, (c) identify as either male, female, or gender non-specific, (d) have the capacity to provide informed consent, (e) have English skills that will allow for conversation during interviews.

For participating you will be offered a $30 Coles Voucher

If you are interested in participating, please provide your details using the following link:

tinyurl.com/kw6krfmw

Stephanie Fernandez will be in contact with you to discuss the study

Email: sfernandez@swin.edu.au

Appendix J

Empirical Study Two: Explanatory Statement

Project Title: Exploring Phenomena of Intrusive Aggressive Thoughts and Aggressive Thoughts: Associated Beliefs and Features

Investigator(s): **Associate Professor Maja Nedeljkovic,** (Chief Investigator, supervisor)
Professor Michael Daffern, (Secondary Supervisor)
Dr Richard Moulding, (Co-supervisor)
Miss Stephanie Fernandez, (Student Investigator)

Introduction to Project and Invitation to Participate

This Information Statement provides a detailed background about the research project. The purpose of this statement is to explain to you as openly and clearly as possible the procedures involved in this project before you decide whether or not you would like to participate in it. Once you have understood what the survey will involve and if you agree to take part in it, you will be asked to complete an interview with the researcher. Proceeding with the study indicates that you understand the information about the project and you give consent to be involved in the project. You are free to withdraw from the project at any time. You will be offered a $30 Coles voucher for your participation in the study.

Consent process

As part of the project recruitment process, your verbal consent to be contacted by the student researcher may have been obtained by your treating clinician. Your treating clinician may have passed on your contact details with your consent, to the student researcher.

It is important to understand that your consent to be contacted by the student researcher is not your consent to participate in the project, and you are under no obligation to participate should you decide that the project is of no interest to you.

Am I eligible to participate?

To be eligible for research participation, you will: (a) be aged 18+, (b) do not have a past or present experience of psychosis, (c) identify as either male, female, or gender non-specific, (d) have the capacity to provide informed consent, (e) have English skills that will allow for conversation during interviews.

What is the Project About and Why is it being Undertaken?

Most individuals have experienced an unpleasant or disturbing thought during their life and sometimes these thoughts occurs spontaneously and without provocation. This common experience is said to occur in approximately 93% of individuals at some point in their life, and is referred to as an intrusive thought. Of particular interest to the current study are intrusive aggressive thoughts and how they are experienced by the individual. The present study aims to explore how aggressive intrusive thoughts, and aggressive thoughts more generally, are experienced by individuals who have a history of aggression or violence difficulties. Additionally,

we aim to examine how certain beliefs individuals have about themselves, others, and aggression may relate to the experience of intrusive aggressive thoughts. By examining these thoughts we hope to increase our understanding of intrusive thoughts and how belief systems may be implicated in the process of aggressive thinking.

Project and Researcher Interests

The project is a partial requirement of the Doctor of Psychology (Clinical and Forensic) program for Stephanie Fernandez.

What Participation will involve

In this study you will asked to complete a battery of self-report questionnaires and participate in an interview further exploring your experiences. The questionnaires will relate to topics such as aggressive intrusive thoughts and your beliefs, feelings, and reactions towards these. You will be asked questions relating to your beliefs about aggression and violence, and also your experience with aggressive-type behaviours. **The questionnaire and interview will take approximately 2 hours to complete. To facilitate data collection for the student researcher, the interviews will be audio recorded. Please note that some of the questions asked during this project may regarded by you as sensitive (e.g., description of aggressive intrusive thoughts; aggressive-type attitudes and behaviours).** If you are uncomfortable with these types of questions you may choose to skip them by letting the researcher know.

It is important to understand that your participation in this project is voluntary and you can withdraw at any time prior to and during the interview and data collection phase of the study. If you do not wish to take part in this study, you have no obligations to do so. You can choose to not answer any question or withdraw any data up until such data is published. Your decision of whether to take part or not, or to withdraw, will not affect your relationship with Swinburne University of Technology, Forensicare, or your treating clinician. Additionally, if participation in the project is causing any distress or discomfort please note that you can stop participation at any time without providing reason or explanation.

Risks & Benefits to taking part in the study

Although you may not experience any direct benefits from having taken part in the study, the results that you contribute towards will help us in understanding aggressive intrusive thoughts and their subjective experience. There are only very small risks to taking part in the study. The questions asked of you in the research interview may be regarded as sensitive and have potential to cause you some discomfort. If you are uncomfortable with these types of questions you may choose to skip them or stop the interview by letting the researcher know. We can also assist in referring you to professional services for any problems you may experience due to taking part in the study. Given the sensitivity of the information you are providing, there is a small risk to your privacy in providing us with personal information. In order to minimise this risk, we will not record your name with any of the information you provide. We will also check all the information in any reports produced to make sure that you cannot be identified by the information provided.

Support services and facilities

While this study will be asking you about symptoms of OCD, Anxiety and Depression we cannot provide you with a diagnosis on the basis of the questions in this interview. If you have concerns about experiencing any of these symptoms you should contact your relevant health professional (e.g., general practitioner, psychologist). Also, some of the questions may be challenging for people who have experienced violence or trauma. If you believe that your participation may cause significant distress you may choose not to participate. If you take part in in this study we will provide you with a list of services to contact if you are feeling any distress at the end of the interview or in the weeks following. You can also tell the person conducting the interview know if you feel any discomfort and they will assist you to find a professional to speak with.
If you are experiencing a crisis, cannot contact a counsellor and need help urgently phone Lifeline on 131 114 or the Suicide Help Line on 1300 651 251. For international support please visit: www.befrienders.org
Appointments for counselling are also available at the Swinburne Psychology Clinic for a low cost at the Hawthorn campus George Swinburne (GS) Building, 34 Wakefield Street, Level 4. Phone: (03) 9214 8653
If you are a Swinburne Student, counselling and psychological services are available free of charge via Student Services, Health and Wellbeing Clinic. Phone: (03) 9214 8483

Research output
The results derived from this project will be analysed and summarised in the Doctoral thesis of Stephanie Fernandez. It is hoped that the present study will be published in a journal and presented at national/international conferences. You may also wish to receive a copy of summary report of the findings of the project. In order to receive this, you will be required to provide an email or postal address to have the summary report distributed to you.

Data Management
Data from the study will be stored in both paper and electronic formats. Paper responses will be filed in secure cabinets, and electronic formats will be stored on a password protected, secure computer only accessible by the researchers named on this application. Your data collected from the interviews with the student researcher will be in a de-identified format. The student researcher will assign a unique code to your data, and this unique code will be used in further data analyses. Should you wish to withdraw from the study at any point, your data will be destroyed and not used in the publication of the results. Your privacy will be protected by ensuring all your de-identified data is stored on a password protected folder and computer. The anonymous group data may be used in future research on aggressive intrusive thoughts conducted by the researchers. However, data from the study will be kept for a maximum of 5 year after any publication or published outcome.

Appendix K

Empirical Study Two: Statement of Informed Consent to Participate

Project Title: Exploring Phenomena of Intrusive Aggressive Thoughts and Aggressive Thoughts: Associated Beliefs and Features

Investigator(s): Associate Professor Maja Nedeljkovic, Professor Michael Daffern, Dr Richard Moulding, Miss Stephanie Fernandez

If you wish to take part in this project, please email *the Student Researcher (Stephanie) using the details below.*

Email: **sfernandez@swin.edu.au**

Consent form

I consent to participate in the project named above. I have been provided a copy of the project consent information statement to which this consent form relates and any questions I have asked have been answered to my satisfaction.

In relation to this project, please circle your response to the following:

- I agree to be interviewed by the researcher **Yes No**
- I agree to allow the interview to be recorded by electronic device **Yes No**
- I agree to complete questionnaires asking me about clinical symptoms and experiences of aggression **Yes No**

I acknowledge that:

(a) my participation is voluntary and that I am free to withdraw from the project at any time without explanation;

(b) the Swinburne project is for the purpose of research and not for profit;

(c) any identifiable information about me which is gathered in the course of and as the result of my participating in this project will be (i) collected and retained for the purpose of this project and (ii) accessed and analysed by the researcher(s) for the purpose of conducting this project;

(d) I understand the length of time researcher/s will have access to this information;

(e) my anonymity is preserved and I will not be identified in publications or otherwise without my express written consent.

By signing this document I agree to participate in this project.

Name of Participant: .....

Signature & Date: .....

Appendix L

Social Desirability Scale (SDS; Stöber, 2001)

Below you will find a list of statements. Please read each statement carefully and decide if that statement describes you or not. If it describes you, check the word "*true*"; if not, check the word "*false*."

1. I sometimes litter
2. I always admit my mistakes openly and face the potential negative consequences
3. In traffic I am always polite and considerate of others
4. I have tried illegal drugs (for example, marijuana, cocaine, etc.)
5. I always accept others' opinions, even when they don't agree with my own
6. I take out my bad moods on others now and then.
7. There has been an occasion when I took advantage of someone else.
8. In conversations I always listen attentively and let others finish their sentences.
9. I never hesitate to help someone in case of emergency
10. When I have made a promise, I keep it – no ifs, ands or buts.
11. I occasionally speak badly of others behind their back
12. I would never live off other people
13. I always stay friendly and courteous with other people, even when I am stressed out.
14. During arguments I always stay objective and matter-of-fact.
15. There has been at least one occasion when I failed to return an item that I borrowed.
16. I always eat a healthy diet.
17. Sometimes I only help because I expect something in return.

Appendix M

Schedule of Imagined Violence (SIV; Grisso et al., 2000)

Have you ever had daydreams or thoughts about physically hurting or injuring some other person? **YES/NO**

1. How often do you have thoughts about hurting or injuring other people?

   — several times a day
   — once a day
   — several times a week
   — once a week
   — several times a month (less than once a week)
   — several times a year
   — never

   1a) In what form or forms (i.e., as a thought, image, or impulse, daydream) do you usually have these thoughts*? An image is like a photograph that appear in our minds, and an impulse is like a sudden urge to do or say something*

   — Thought
   — Image
   — Impulse
   — Daydream

2. When was the last time you had such a thought?

   — Today
   — In the past 2 days
   — In the past 3-7 days
   — During the past 2 months
   — During the past month
   — More than 2 months ago

3. When did you start having these thoughts?

   — Since a specific event (specify event)
   — As long as can remember
   — During the past month
   — Since several months ago
   — More than a year ago
   — During the past 3-6 months
   — Since several years ago

4. When you have these thoughts, in what way do you think about behaving aggressively*?*

Please indicate below which option(s) relate to you.

___Verbally abusing/swearing

___Hitting/punching

___Slapping

___Kicking

___Shooting

___Sexual aggression

___Stabbing

___Damaging property

___ Throwing an object

___ Threatening

___Torturing (e.g., burning)

Other (list)_____

5. When you have these thoughts, are they usually about the same person, or might they be about many different people?

___Same ___Different

6. Are they usually about the same person, or might they be about many different people?

___ Same person ___ Different people

7. Since the time you first started having these thoughts, have the injuries that you think about gotten more serious, less serious, or have they been about the same?

___Less serious ___More serious
___Same

8. In the past 2 months, have you ever had these thoughts while actually being with or watching the person whom you imagine hurting?

___Yes ___No

9. How often do you have thoughts where you are planning to behave aggressively?

___ Never (discontinue)
___ Several times a year
___ Once a week
___ Several times a week
___ Once a day

___ Several times a month (less than once a week) ___ Several times a day

10. When do you most think about behaving aggressively? (**X** as many as apply)

___ After behaving aggressively ___Before behaving aggressively
___ While behaving aggressively

11. Think about a time when you were thinking about hurting or injuring someone. What happened to make you think this way?

_____

_____

_____

12. What feelings do you have when you think about behaving aggressively?

___ Disgust	___ Annoyance	___ Boredom	___ Sadness
___ Surprise	___ Fear	___ Trust	___ Joy/Happiness
___ Anger	___ Calm	___ Love	___ Fear
___ Trust	___ Shame	___ Anticipation	___ Confusion
___ Amusement	___ Hope	___ Hate	___ Despair
___ Security			

Please circle never, sometimes or always for the following questions

11. I like thinking about behaving aggressively *Never Sometimes Always*

12. I wish I didn't think about behaving aggressively *Never Sometimes Always*

13. When I think about behaving aggressively I feel in control *Never Sometimes Always*

14. I feel sad when thinking about behaving aggressively *Never Sometimes Always*

15. Thinking about behaving aggressively clams me down *Never Sometimes Always*

16. I feel excited when thinking about behaving aggressively *Never Sometimes Always*

17. I try to stop thinking of behaving aggressively *Never Sometimes Always*

18. Thinking about behaving aggressively makes me feel better about myself *Never Sometimes Always*

19. Most people have thoughts about behaving aggressively *Never Sometimes Always*

20. I feel bad about having thoughts of behaving aggressively *Never Sometimes Always*

21. The more I think about behaving aggressively the angrier I get *Never Sometimes Always*

22. I think about aggressive ways that I can teach someone a lesson *Never Sometimes Always*

23. I feel anxious when I think about behaving aggressively *Never Sometimes Always*

24. I worry I will hurt people when I think aggressively *Never Sometimes Always*

Appendix N

Questionnaire of Unpleasant Intrusive Thoughts (QUIT; Pascual-Vera et al., 2019)

MENTAL INTRUSIONS WITH UNPLEASANT CONTENT

Indicate the **frequency** and **discomfort** for each of the intrusions on the list. Use these response scales.

Response scale for FREQUENCY

0	1	2	3	4	5	6
NEVER: "I have had this mental intrusion"	**RARELY:** "I have had mental intrusion once or twice in my life"	**OCCASIONALLY:** "I have had this a few times a year"	**SOMETIMES:** "I have this once or twice a month"	**OFTEN:** "I have this intrusion once or twice a week"	**QUITE OFTEN:** "I have this intrusion every day"	**ALWAYS:** "I have this frequently throughout the day"

Response scale for DISCOMFORT

0	1	2	3	4
Does not bother	Is somewhat	Disturb	Disturbs	Is extremely

Nº	CONTENT OF THE SUDDEN, UNINVITED	FREQUENCY							DISCOMF				
1	While using a sharp object, like a knife, scissors, or a tool, I have had mental intrusions about injuring or harming a person close to me with it, including family members or friends.	0	1	2	3	4	5	6	0	1	2	3	4
2	When in a high place, like a cliff, a bridge or a tall building, I have had mental intrusions of jumping off.	0	1	2	3	4	5	6	0	1	2	3	4
3	For no special reason, I have had mental intrusions about participating in sexual activity that goes against my sexual preferences. For example, man/woman, animals, dead people, etc.	0	1	2	3	4	5	6	0	1	2	3	4
4	For no special reason, I have had mental intrusions about existential doubts that don't make sense... about myself, my feelings, life, the world…	0	1	2	3	4	5	6	0	1	2	3	4
5	Even though I know it's unlikely, I have had mental intrusions about having dirtied or contaminated myself through contact, although very slight, with body fluids such as sweat, saliva, urine, excrement or feces.	0	1	2	3	4	5	6	0	1	2	3	4
6	When in a public place, I have had mental intrusions about being contaminated by, or contracting a disease from, touching something that strangers have touched, such as door knobs, the toilet seat, money, or public phones.	0	1	2	3	4	5	6	0	1	2	3	4
7	Even though I know it is probably not true, I have had mental intrusions that I may have left something on at home. For example, having an intrusion about leaving the kitchen stove, gas, heater, lights, iron, hair straightener on, or a cigarette burning...	0	1	2	3	4	5	6	0	1	2	3	4

8	Even though I know it is probably not true, I have had mental intrusions that I may have forgotten something important.	0	1	2	3	4	5	6	0	1	2	3	4
9	I have had a mental intrusions that certain objects such as furniture or clothes are not correctly organized, or do not follow a certain order. For example, being asymmetrical, not matching in colour, etc....	0	1	2	3	4	5	6	0	1	2	3	4
10	Even though in an office, house or another location that seems organized, I have had mental intrusions that certain things have to be in "their right" place.	0	1	2	3	4	5	6	0	1	2	3	4
11	Even though I know it's unlikely, I have had mental intrusions that certain actions or situations can cause future misfortune or bad luck in general. For example: walking under a ladder, seeing a black cat, someone looking askance at me, etc.	0	1	2	3	4	5	6	0	1	2	3	4
12	Even though I know it's unlikely, I have had mental intrusions that certain thoughts or images can cause future misfortune or bad luck in general. For example: thinking about something bad, remembering a song, counting numbers, etc.	0	1	2	3	4	5	6	0	1	2	3	4

Now please focus on the mental intrusions from the **list above THAT YOU HAVE EXPERIENCED IN THE PAST 3 MONTHS**. Decide which of these intrusions is the **most DISTURBING, the most UNPLEASANT**, or the one that bothers you most when you have it **with a FREQUENCY OF AT LEAST 1.**

In the case you have not have had any intrusion with a frequency of at least 1 in the past 3 months, please leave this page blank.

The intrusion that is the **most DISTURBING** to me, from those that **I have experienced in the past three months**, is number from the list above with a frequency of:

1	2	3	4	5	6
RARELY: "I have had this mental intrusion once or twice in my life"	**OCCASIONALLY:** "I have had this intrusion a few times a year"	**SOMETIMES:** "I have this intrusion once or twice a month"	**OFTEN:** "I have this intrusion once or twice a week"	**QUITE OFTEN:** "I have this intrusion every day"	**ALWAYS:** "I have this intrusion frequently throughout the day"

In what form or forms do you usually have it? (You can mark various responses):

Thought or doubt □ image□ impulse□ physical sensation□

Please, write the most disturbing intrusion that you chose from the list above by using your own words:

_____

When was the last time you had this intrusion?:

3 months ago	Past month	Past 7 days	Past 3 days	Yesterday	Today

Do you remember what you were doing when you had the intrusion, or if something had happened before you have it? If *YES*, please write it:

The following questions are related to what **YOU EXPERIENCE OR DO when you have YOUR MOST DISTURBING INTRUSION.** Indicate the degree to which you agree, or whether each of these statements applies to you. Use this scale to respond.

0	**1**	**2**	**3**	**4**

1	It scares me; I get nervous.	0	1	2	3	4
2	It makes me sad.	0	1	2	3	4
3	It interrupts what I'm doing; it distracts me.	0	1	2	3	4
4	I find it unacceptable; it goes against what I want, or against my values	0	1	2	3	4
5	I believe that if I have it, it must be important.	0	1	2	3	4
6	I believe it is important to control it and stop thinking about it.	0	1	2	3	4
7	I believe that if I think it, it's more likely to happen, or to be true.	0	1	2	3	4
8	I don't do anything; I just let it be there.	0	1	2	3	4
9	I try not to think about the intrusion; I try to mentally suppress it	0	1	2	3	4
10	I get mad at myself for having that intrusion.	0	1	2	3	4
11	I do something that I know counters the unpleasantness provoked by the intrusion. For example, organize, check, touch things or touch myself, wash, clean, pray, count, repeat an action, say a particular word or phrase, repeat a prayer, think opposite thought, etc.	0	1	2	3	4
12	I look for information about the intrusion, or ask other people about the intrusion to calm myself down or make sure that the intrusion is not important, or that nothing bad is going to happen because I have it.	0	1	2	3	4
13	I distract myself by doing something pleasant or relaxing (i.e. turning up the radio, the TV, playing computer, reading, etc.)	0	1	2	3	4
14	I try to avoid anything that will trigger the intrusion	0	1	2	3	4

Appendix O

Anger Rumination Scale (Sukhodolsky, Golub & Cromwell, 2001)

Instructions: Please rate the following statements in terms of how well they correspond to your beliefs about yourself using the following scale:

1 ="almost never" to 4 = "almost always"

1. I have long living fantasies of revenge after the conflict is over
2. when someone make me angry I can't stop thinking about how to get back at this person
3. I have thoughts of a violent nature
4. I have difficulty forgiving people who have hurt me

Appendix P

Life History of Aggression (LHA; Coccaro, Berman & Kavoussi, 1997)

Please rate the following statements, with regards to the occurrences of these behaviours since you were aged 13 using the following scale:

0 = no occurrences; 1 = one event; 2 = two or three events; 3 = four to nine events; 4 = 10 or more events; 5 = more events than can be counted

1. Verbal aggression (e.g., shouting or swearing at somebody or making threats to harm another person)
2. Indirect Aggression (aggression directed toward inanimate objects/property, e.g., destroying property or punching a hole in the wall)
3. Non-specific fighting (physical aggression like hitting, slapping, kicking etc. whether or not the fight was started by you)
4. Physical assault against people (physical aggression that you planned or thought about beforehand)
5. Temper tantrums

Appendix Q

Measures of Criminal Attitudes and Associations (MCAA; Mills, Kroner & Forth, 2002).

Please rate your agreement or disagreement with the following attitudinal statements using this scale: *1 = Disagree, 2 = Agree*

1. Someone who makes you very angry deserves to be hit

2. there is nothing wrong with beating up someone who asks for it

3. It's understandable to hit someone who insults you

4. It's all right to fight someone if they stole from you

5. Someone who make you really angry shouldn't complain if they get hit

6. People who get beat up usually had it coming

7.It is reasonable to fight someone who cheated you

8. It is important that you pay attention, please answer 4= agree

9. It's not wrong to fight to save face

10. Sometimes you have to fight to keep your self-respect

11. There is nothing wrong with beating up a child molester

12. It's not wrong to hit someone who puts you down

13. Child molesters get what they have coming

Appendix R

Ego-Dystonicity Questionnaire - Reduced Version (EDQ-R; Belloch et al., 2012)

Instructions: Focusing on the most upsetting Aggressive Intrusive Thought, please answer the following on a scale of: *1 = strongly agree to 7 = strongly disagree*

1.Thought is immoral

2. Do not want it to come true

3. Thought conflicts with personality

4.How can I have this thought?

5. Not the kind of thought I would expect

6. Immorality of having this thought

7. Do not want it to come true

8. Takes me by surprise

9. Get it out of my mind and keep it out

10. Would never do anything to make it true

11. Does not reflect what I want

12. Thought is repulsive

13. Need to ensure it will not come true

14. Do anything to get rid of it

15. Against what is right

16. More I have it, less I want it to come true

17. Need to prove I'm not the person it suggests

18. Absurd thought

19. Thought doesn't mean anything at all

20. I would be a better person if no thoughts

21. More I have it, more I worry it will come true

22. Thought is distressing

23. No good reason to have this thought

24. Makes no sense to have this thought

25. Thought is irrational

26. Surprise about having this thought

27. Nothing appealing about it coming true

Appendix S

Thought Control Questionnaire (TCQ; Luciano et al., 2006)

Most people experience unpleasant, and/or unwanted thoughts (in verbal and/or picture form), which can be difficult to control. We are interested in the techniques that you generally use to control such thoughts. Below are a number of things that people do to control these thoughts. There are no right or wrong answers. Do not spend too much time thinking about each one. *Please read each statement carefully, and indicate how often you use each technique, on a scale of 1- 4 (1 = never; 2 = sometimes; 3 = often; 4 = almost always).*

"When I experience an unpleasant-unwanted thought":

1. I call to mind positive images instead
2. I punish myself for thinking the thought
3. I dwell on other worries
4. I get angry at myself for having the thought
5. I shout at myself for having the thought
6. I think pleasant thoughts instead
7. I find out how my friends deal with these thoughts
8. I worry about more minor things instead
9. I do something that I enjoy
10. I try to reinterpret the thought
11. It is important that you pay attention, please answer 3 = often to this question
12. I think about something else
13. I think more about the more minor problems I have
14. I try a different way of thinking about it
15. I ask my friends if they have similar thoughts
16. I talk to a friend about the thought

Appendix T

Obsessive Beliefs Questionnaire (OBQ-20; Moulding et al., 2011)

This inventory lists different attitudes or beliefs that people sometimes hold. Read each statement carefully and decide how much you agree or disagree with it. For each statement, choose the number matching the answer that best describes how you think. Because people are different, there are no right or wrong answers. To decide whether a given statement is typical of your way of looking at things, simple keep in mind what you are like most of the time. Use the following scale:

1=Disagree Very Much, 2=Disagree Moderately, 3=Disagree a little, 4=Neither agree nor disagree, 5=Agree a little, 6=Agree moderately, 7= Agree very much

1. If I'm not absolutely sure of something, I'm bound to make a mistake
2. To be a worthwhile person, I must be perfect at everything I do
3. Even if harm is very unlikely, I should try to prevent it at any cost
4. For me, having bad urges is as bad as actually carrying them out
5. If I don't act when I foresee danger, then I am to blame for consequences
6. In all kinds of daily situations, failing to prevent harm is just as bad as deliberately causing it
7. For me, not preventing harm is as bad as causing harm
8. I should be upset if I make a mistake
9. For me, things are not right if they are not perfect
10. Having nasty thoughts means I am a terrible person
11. If I do not take extra precautions, I am more likely than others to have or cause a serious disaster
12. I am more likely than other people to accidentally cause harm to myself or to others
13. Having bad thoughts means I am weird or abnormal

14. Even when I am careful, I often think bad things will happen

15. Having intrusive thoughts means I'm out of control

16. Harmful events will happen unless I am very careful

17. I must keep working until it's done exactly right

18. To me, failing to prevent disaster is as bad as causing it

19. Having a bad thought is morally no different than doing a bad deed

20. No matter what I do, it won't be good enough

Appendix U

Self-Ambivalence Measure (SAM; Bhar & Kyrios, 2007)

1. I feel torn between different parts of my personality
2. I tend to move from one extreme to the other in how I think about myself
3. I question the extent to which others want to be close to me
4. I have mixed feelings about my self-worth
5. I feel that I am full of contradictions
6. I think about my worth as a person
7. I am constantly aware of how others perceive me
8. I doubt whether others really like me
9. I fear I am capable of doing something terrible
10. I constantly worry about whether I will make anything of my life
11. I am secure in my sense of self-worth
12. I think about how I can improve myself
13. I am mindful about how I come across to others
14. I am constantly worried about whether I am a good or bad person
15. I question whether I am a moral person
16. I tend to think of myself in terms of categories such as “good” or “bad”
17. I question whether I am morally a good or bad person
18. I am constantly concerned about whether I am “decent” human being

If I inadvertently allow harm to come to others, this proves I am untrustworthy

Appendix V

Fear of Self Questionnaire (FSQ; Aardema et al., 2013)

Instructions: Please rate your agreement or disagreement with the following statements using this scale:

1 = Strongly disagree, 2 = Disagree, 3 = Somewhat disagree, 4 = Somewhat agree, 5 = Agree, 6 = Strongly agree

1. I often question my own character
2. I can easily imagine myself as the kind of person that should definitely feel guilty
3. I often question my own sanity
4. I am sometimes afraid to look inside of myself because I am afraid of what I could find
5. I worry about being the sort of person who might do very immoral things
6. I'm afraid of the kind of person I might become if I'm not very careful
7. I often feel that I do not honestly show the negative reality inside myself
8. I must be very careful in order to avoid doing something awful

Appendix W

Obsessive Compulsive Inventory – Revised (OCI-R; Foa et al., 2002).

The following statements refer to experiences that many people have in their everyday lives. Please indicate the number that best describes **HOW MUCH** that experience has **DISTRESSED** or **BOTHERED** you during the **PAST MONTH**.

The numbers refer to the following verbal labels:

0 = Not at all; 1 = a little; 2 = moderately; 3 = a lot; 4 = extremely

1. I have saved up so many things
2. I check things more often than necessary
3. I get upset if objects are not arranged properly
4. I feel compelled to count while I am doing things
5. I find it difficult to touch an object when I know it has been touched by strangers or certain people
6. I find it difficult to control my own thoughts
7. I collect things I don't need
8. I repeatedly check doors, windows, drawers etc.
9. I get upset if others change the way I have arranged things
10. I feel I have to repeat certain numbers
11. I sometimes have to wash or clean myself simply because I feel contaminated
12. I am upset by unpleasant thoughts that come into my mind against my will
13. I avoid throwing things away because I am afraid I might need them later
14. I repeatedly check gas and water taps and light switches after turning them off
15. I need things to be arranged in a particular order
16. I feel that there are good and bad numbers

17. I wash my hands more often and longer than necessary

18. I frequently get nasty thoughts and have difficulty in getting rid of them

Appendix X

Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995)

Instructions: Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you **over the past week.** There are no right or wrong answers. Do not spend too much time on any statement.

0 = Did not apply to me at all; 1 = Applied to me to some degree, or some of the time; 2 = Applied to me to a considerable degree or a good part of time; 3 = Applied to me very much or most of the time

1. I found it hard to wind down
2. I was aware of dryness of my mouth
3. I couldn't seem to experience any positive feeling at all
4. I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)
5. I found it difficult to work up the initiative to do things
6. tended to over-react to situations
7. I experienced trembling (e.g. in the hands)
8. I felt that I was using a lot of nervous energy
9. I was worried about situations in which I might panic and make a fool of myself
10. I felt that I had nothing to look forward to
11. I found myself getting agitated
12. I found it difficult to relax
13. I felt down-hearted and blue
14. I was intolerant of anything that kept me from getting on with what I was doing
15. I felt I was close to panic

16. I was unable to become enthusiastic about anything

17. I felt I wasn't worth much as a person

18. I felt that I was rather touchy

19. I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)

20. I felt scared without any good reason

21. I felt that life was meaningless

Appendix Y

Semi-Structured Interview

Introduction

Thank the participant for agreeing to participate in the interview, and provide them with a reminder that the interview purpose is to better understand their experience of aggressive intrusive thoughts/aggressive scripts. Specifically address that the interview will ask them about how they have experienced these thoughts in the past, and what they felt whilst experiencing them

1. Have you experienced thoughts about physically harming or injuring another person?

   a) Tell me about how this thought arrived in your mind?
   b) When did you first notice this thought?
   c) Did this thought appear out of the blue, or have you been thinking about this for several days?
   d) How does this thought interrupt what you are doing?
   e) What is it about this thought that make it feel like it intrudes your mind?

2. Think about the content of thought – what stands out for you?

   a) Do you experience this thought as unwanted?; what is about this thought that makes it unwanted for you?
   b) How do you feel when you experience this thought?
   c) How would you describe your reaction to this thought?
   d) What is about this thought that is distressing?

3. People have different emotional reactions to these types of thoughts; what would you say your emotional reaction is when this thought appears in your mind?

Provide participant with list of different emotions

a) How do you feel when you experience this thought?

4. Think about what you do when you experience these types of thoughts:

b) Do you find the thought difficult to control?
c) What do you find useful in managing these thoughts?
d) Do you have any strategies to cope with the thought; if YES, explore further

5. Sometimes our thoughts reflect things that we want to happen, or things we don't want to happen; can you tell me about what the thought reflects to you?

a) What do you believe this thought means about you?
b) What do you think these thoughts mean?

INTRUSIVENESS

- Tell me more about how this thought arrived in your mind?
- What is it about this this thought that makes it feel like it intrudes your mind?
- To what extent does this thought intrude your mind?
- How does this thought interrupt what you are doing?
- How does this thought disrupt your day to day life?

UNWANTED

- What is it about this thought that makes it unwanted for you?
- In what ways is this thought unwanted?

SPONTANEOUS

- When did you first notice this thought?
- When does this thought appear in your mind?
- Did this thought appear out of the blue, or was it pre-conceived?

DISTRESS

- How do you feel when you experience this thought?
- How would you describe your reaction to this thought?
- What is about this thought that is distressing/disturbing?

EMOTIONAL REACTION

- How do you feel when you experience this thought?
- What feelings do you have when you have these thoughts about hurting or injuring other people?

a) Interested
b) Distressed
c) Excited
d) Upset
e) Strong
f) Guilty
g) Scared
h) Hostile
i) Enthusiastic
j) Proud
k) Irritable
l) Alert
m) Ashamed
n) Inspired
o) Nervous
p) Determined
q) Attentive
r) Jittery
s) Active
t) Afraid

CONTROL AND NEUTRALISING

- Do you find the thought difficult to control?
- What do you do with the thought when it appears in your mind?
- What do you find useful in managing this thought?
- Do you have any strategies to cope with the thought?;if YES further explore.

BELIEFS: EGO-DYSTONICITY; FEARED SELF

- Sometimes our thoughts reflect things that we want to happen, or things we don't want to happen; can you tell me about what the thought reflects to you?
- What do you believe this thought means about you?
- What do you think these thoughts mean?

Appendix Z

Supplementary Material S1

Anger Rumination Scale: Thoughts of Revenge Subscale (ARS; Sukhodolsky et al., 2001). The present study utilised the Thoughts of Revenge Subscale which assess one's thoughts about anger, and attitudes towards retaliation after provoking situations. Items such as "when someone makes me angry I can't stop thinking about how to get back at this person" are rated on a 4-point Likert scale ranging from 1 (almost never) to 4 (almost always). The ARS has demonstrated good internal consistency across the full scale ($\alpha = 0.93$) and subscales ($\alpha s = 0.72 – 0.85$).

Depression Anxiety Stress Scales Short Form (DASS-21; Lovibond & Lovibond, 1995). The DASS assess one's emotional states across three subscales: depression, anxiety, and stress symptoms. It contains 21 items such as "I found it difficult to relax", and participants are asked to rate items on a 4-point Likert scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time), with reference to the past week. The DASS-21 has demonstrated good internal consistency ($\alpha s = 0.91; 0.80; 0.84$, for Depression, Anxiety, and Stress respectively), and good convergent validity with the Mental Component Summary score (r = -0.58 to -0.69; Sinclair et al., 2012).

Ego-Dystonicity Questionnaire- Reduced Version (EDQ-R; Belloch et al., 2012). The EDQ is a self-report containing 27 items that assess beliefs concerning the content of one's thoughts and how they may be experienced as inconsistent with ones self-beliefs, values, and moral attitude. The present study modified the EDQ to ask participants to focus on their most upsetting 'aggressive thought' whilst providing their ratings. Participants rate items such as that the "Thought conflicts with personality" on a 7-point Likert scale ranging from 1 (strongly agree) to 7 (strongly disagree). The EDQ-R has demonstrated good internal

consistency (αs = 0.86) and has been found to measure three separate factors (undesirability: αs = 0.92; irrationality: αs = 0.80; immorality: αs = 0.70; Belloch et al., 2012).

Fear of Self Questionnaire (FSQ; Aardema et al., 2013). The FSQ is an eight item self-report measure which assess beliefs concerning hidden or covert aspects of one's personality. Participants rate items such as "I often question my own sanity" on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly disagree). The FSQ has demonstrated excellent internal consistency (α = 0.93), good convergent validity with other measure of self-related beliefs and constructs (i.e., Self-Ambivalence Measure r = 0.68; Inferential confusion Questionnaire r = 0.72; Aardema et al., 2013).

Life History of Aggression (LHA; Coccaro et al., 1997)**.** The LHA, as revised by Coccaro et al. (1997), is a self-report measure that assesses the number of occurrences of aggressive behaviours since the age of 13. The Aggression subscale, which assesses the experience of overt aggressive behaviour, was only utilised in the current study. Participants rate items such as "Physical assault against people" on a 5-point Likert scale ranging from 0 (no occurrences) to 5 (more events than can be counted). In the current study, the Aggression subscale demonstrated good internal consistency (α = 0.79). The LHA full scale and the Aggression subscale have demonstrated good internal consistency (α = 0.88; α = 0.87, respectively; Coccaro et al., 1997).

Measures of Criminal Attitudes and Associations (MCAA; Mills et al., 2002). The complete MCAA is a two-part self-report questionnaire, comprising Violence, Entitlement, Antisocial Intent, and Associates subscale. The present study only utilised 13 items from the Violence subscale which included items such as "Someone who makes you very angry deserves to be hit" and are rated on a dichotomous scale of agree/disagree. The MCAA full scale (α = 0.90) and the subscale of Violence (α = 0.80) have demonstrated excellent internal consistency (Mills et al., 2002).

Obsessive Beliefs Questionnaire (OBQ-20; Moulding et al., 2011). The OBQ-20 is a short form of the Obsessive Beliefs Questionnaire (OCCWG, 2005). The OBQ contains 20-items and assesses four obsessive belief domains which have been identified through factor analyses: (1) Threat, (2) Responsibility, (3) Importance of Thoughts, and (4) Perfectionism. Participants rate items such as "For me, not preventing harm is as bad as causing harm" on a 7-point Likert scale ranging from 1 (Disagree very much) to 7 (Agree very much). The OBQ-20 has demonstrated good internal consistency (αs = 0.77 – 0.83; Moulding et al., 2011).

Obsessive Compulsive Inventory – Revised (OCI-R; Foa et al., 2002). The OCI-R is an 18-item self-report measure that assesses obsessive compulsive symptoms and associated distress associated. Participants rate items such as "I check things more often than necessary' on a 4-point Likert scale ranging from 0 (not at all) to 4 (extremely). The OCI-R has demonstrated good psychometric properties, and excellent test-retest reliability for a 2 week period (r = 0.74 to 0.91).

Schedule of Imagined Violence (SIV; Grisso et al., 2000). The original SIV contains eight items which assess participants' experience of a violent thought, as well as subsequent aggressive actions. Only the frequency item of the SIV ("How often do you have thoughts about hurting or injuring other people?") was used in the current study. Participants rated their responses to this item on a 7-point Likert scale ranging from 0 (never) to 7 (several times a day). This item has been used in prior research to measure the frequency of one's aggressive script rehearsal (Daff et al., 2015; Hosie, Simpson, et al., 2022; Podubinski et al., 2017).

Social Desirability Scale (SDS; Stöber, 2001). The SDS is a 17 item self-report measure, devised from the Marlowe-Crowne Scale (Lück & Timaeus, 1969), that assess the extent to which participants engage in social desirable responding. Participants respond to

items such as “I sometimes litter” on a dichotomous scale of true or false. The SDS has demonstrated adequate internal consistency (α = 0.72), and good test-retest reliability over a 4-week period (r = 0.82; Stöber, 2001).

Self-Ambivalence Measure (SAM; Bhar & Kyrios, 2007). The SAM is a 19-item measure of self-ambivalence—which encompasses beliefs regarding uncertainty towards the self, and dichotomous perceptions about one’s self-concept. Participants respond to items such as “I feel that I am full of contradictions” on a 5-point Likert scale ranging from 0 (not at all) to 4 (agree totally). The SAM has demonstrated acceptable reliability and good internal consistency (αs = 0.88 – 0.85; Bhar & Kyrios, 2007).

Thought Control Questionnaire (TCQ; Luciano et al., 2006). The TCQ contains 16 items assessing the use of different thought control strategies. Participants rate items such as “I get angry at myself for having the thought” on a 4-point Likert scale ranging from 1 (never) to 4 (almost always). The 16 item version of the TCQ has demonstrated good internal consistency (α = 0.75), and acceptable discriminant validity amongst the five factors (Luciano et al., 2006).

Questionnaire of Unpleasant Intrusive Thoughts (QUIT; Pascual-Vera et al., 2019). The QUIT assesses the experience of a range of intrusive thought content themes. Only the unpleasant content domain was used in the current study, and analyses involving the QUIT only used the frequency item of unwanted aggressive intrusive thoughts. Participants rated their responses on a 7-point Likert scale ranging from 0 (*never*) to 6 (*always*). The psychometric properties of the full QUIT have been assessed cross-culturally (Pascual-Vera et al., 2019), and has demonstrated good to excellent internal consistency across different countries.