Creatively Exploring the Implicit Component of Sexual Offenders' Implicit Theories

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ABSTRACT

By reappraising the shared association between the Implicit Theories theory (Ward, 2000; Ward & Keenan, 1999) and Attachment theory (Bowlby, 1969/1982, 1973, 1980), the objective of this thesis was to create a novel paradigm utilizing methodology (i.e., drawing and visualization tasks), from the domain of art therapy, to investigate the implicit cognitive components implicated in both a Dangerous World and Uncontrollability IT. Studies 1, 2 and 3 represented the first two pilot studies and preliminary study, respectively, that were conducted in order to investigate whether the measurements we wished to use in the main empirical studies, were appropriate measurements or required adjustment. Study 4 examined the investigative ability of this novel paradigm for a Dangerous World IT, using the measurements created in Studies 1, 2 and 3. In Studies 5 and 6 we explored if making changes to the methodology used in Study 4, would impact meaningfully upon findings. Building upon the results from Studies, 4, 5 and 6, Studies 7, 8 and 9, explored whether an Uncontrollability IT could be investigated by using a similar approach to that employed for investigating a Dangerous World IT, and; also to explore if a Dangerous World and Uncontrollability IT were meaningfully associated.

The combined results of this thesis support the use of art-therapy methodology to investigate the deeper, more implicit cognitive components implicated in a Dangerous World and Uncontrollability IT. Results also indicate that attachment is an important variable to control for when investigating cognition implicated in implicit theories. This thesis concludes with a summary of the findings, a discussion of the methodological limitations of the studies and suggestions for future research.

MEMORANDUM

The research reported in this thesis was conducted while the author was a part-time postgraduate student in the Department of Psychology at the University of Kent (September 2011 – September 2018). The theoretical and empirical work herein, is the independent work of the author. Intellectual debts are acknowledged in the text. The execution of the studies reported in this thesis required some limited assistance from other people. Their role consisted of assisting with aspects of the experimental procedure and administrating questionnaires. The author has not been awarded a degree by this or any other university for the work included in this thesis.

ACKNOWLEDGMENTS

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INTRODUCTION AND OVERVIEW OF THESIS

BACKGROUND AND AIM OF THESIS

Cognitive distortions have come to the attention of psychologists working and researching in forensic domains, when individuals who have committed sexual offences were asked to account for their offences (e.g., Bumby, 1996; Ward, 2000). Their verbally expressed accounts often appeared to demonstrate distorted cognition in the form of "general beliefs/attitudes that violate commonly accepted norms of rationality" (Ó Ciardha & Ward 2013, p. 3). Therein, cognitive distortions are viewed as representing significant offence-related phenomena, and are thus targeted in research, and treatment initiatives (Ó Ciardha & Ward, 2013).

However, due to the unobservable nature of the underlying structures implicated in cognitive distortions, one of the biggest challenges facing clinicians and research psychologists, is their ability to distinguish authentic cognitive distortions, from post-hoc excuses and justifications (e.g., Blake & Gannon, 2010; Gannon & Polaschek, 2006; Maruna & Mann, 2006): Current assessments designed to access implicit cognition in sexual offenders being criticized for only measuring cognitive distortions at an explicit level (Keown, Gannon, & Ward, 2008; Blake & Gannon, 2010).

The theme of insecure attachment (e.g., Bowlby, 1988) as it relates to offending and the development of sexual offenders' cognitive distortions, runs throughout the majority of theories devoted to the understanding and investigation of cognitive distortions (e.g., Abel, Becker, & Cunningham-Rathner, 1984; Mann & Beech, 2003; Marshall & Barbaree, 1990), including Ward's IT theory (Ward, 2000; Ward & Keenan, 1999). However, measurable evidence demonstrating the link between attachment style and cognitive distortions is lacking. Interestingly, the term internal working models (IWMs) has been employed to describe the

unobservable and implicit components of both ITs (Ward, Keenan, & Hudson, 2000) and attachment style (Bowlby, 1969/1982, 1973, 1980).

There are undoubtedly, theoretical differences between attachment theory and IT theory: the former being associated with the way individuals resolve issues of relationship insecurity and affect regulation (Bowlby, 1969/1982, 1973, 1980), and; the latter being implicit or folk explanations of the different aspects of the self, the world and other people, especially as they relate to threats and challenges (e.g., Ward, 2000). However, if we accept that a key tenet of Bowlby's (e.g., 1988) theory of attachment, was his conception of early experiences of attachment bonding, as creating a sort of 'master' template underpinned at the structural level by IWMs: which inform the developmental integration of other, relationship-based behavioural systems (e.g., Hinde & Stevenson-Hinde, 1991; George & West, 2012), which; influence sexual attitudes, how we view the 'sexual self', and being implicated in how we negotiate sexual encounters (e.g., Mikulincer & Shaver, 2007), then: it is highly possible that Ward's (2000) notion of ITs, which are also said to develop during early development, are underpinned by the same IWMs as attachment style.

It is thus argued that we may further our understanding of problematic ITs, by reappraising and thus exploring this shared association posited to exist at the more structural level, between the Implicit Theories (IT) theory (Ward, 2000; Ward & Keenan, 1999) and Attachment Theory, (Bowlby, 1969/1982, 1973, 1980).

However, as stated, the unobservable nature of internal working models presents itself as a problem. Herein, we can turn to art therapy methodology which makes use of media and tasks that tap into non-verbal modes of cognition located at the more structural levels of processing, such as pictorial cognition (e.g., Hinz, 2009): one of many forms of thinking in non-verbal representations (Horowitz, 1967). In this way, art therapy methodology is said to rescue implicit cognition from its wordless form, creating visible and concrete forms of

experience (e.g., Case & Dalley, 1992). For example, research has found that the content of simple drawing tasks alone, significantly distinguished between aggressive and non-aggressive adolescents (Earwood, Fedorko, Holzman, & Montanari, & Silver, 2004). Other research examined the use of drawings as a lie detection aid, reporting that eighty percent of liars and truth tellers could be correctly classified when assessing drawings (Vrij, Leal, Granhag, Mann, Fisher, Hillman, & Sperry, 2009). These are just two examples of how art therapy methodology can be effectively employed to reveal intra-psychic content.

Against this background, the primary aim of this thesis, delivered in nine chapters, is to extend current knowledge of sexual offenders' cognitive distortions, by creating a novel paradigm utilizing art therapy methodology, wherein the goal is to investigate and provide evidence: for the shared association between the Implicit Theories (IT) theory (Ward, 2000; Ward & Keenan, 1999) and Attachment Theory, (Bowlby, 1969/1982, 1973, 1980), namely; that both an insecure attachment and problematic ITs are underpinned by more negative IWM content. In this way, it is hoped that this approach may complement existing initiatives aimed at distinguishing authentic cognitive distortions, from post-hoc excuses and justifications, and also enhance current assessment and treatment programs dedicated to cognitive distortions. The results of 9 progressive studies employing this paradigm are discussed.

OVERVIEW

Chapter 1 provides a review of the existing literature on attachment theory, therein, discussing why attachment theory presents itself as a promising framework within which to contextualize research into the phenomena of sexual offenders' cognitive distortions. In this chapter there is a focus upon specific cognitive components implicated in the formation of attachment style, which it is argued, may better inform development of current methodologies employed to investigate forensic cognition. More particularly, this chapter lays the foundation

for why, it is argued, that a reappraisal of the shared association between Bowlby's (e.g., 1969, 1982) attachment theory and Ward's (Ward, 2000; Ward & Keenan, 1999) Implicit Theories Theory of Cognitive Distortions, is both necessary, and timely: A reappraisal, which, when combined with the knowledge underpinning the domain of art therapy, has the potential to facilitate understanding and investigations into cognitive distortions. This chapter finishes by outlining how the construct of attachment lends itself to being mapped onto a social cognitive perspective of cognition, which may better inform research into forensic cognition.

In Chapter 2, the literature surrounding existing theories of sexual offenders' cognitive distortions is discussed. I begin by reviewing Abel, Becker, and Cunningham-Rathner's (1984) Theory of Cognitive Distortions, moving onto Ward's (2000; Polaschek & Ward, 2002; Ward & Keenan, 1999) Implicit Theories Theory of Cognitive Distortions. This is then followed by the Judgment Model of Cognitive Distortions (JMCD) (Ward, Gannon, & Keown, 2006b; Ward, Keown, & Gannon, 2007), finishing with Ward and Casey's (2010) Extended Mind Theory of Cognitive Distortions. As this chapter draws to a conclusion, a working definition of the term 'cognitive distortion', as it relates to the domain of forensic cognition, is outlined in section six: it is this working definition that will be employed throughout the remainder of this thesis.

Chapter 3 provides an overview of methodologies employed to investigate sexual offenders' cognitive distortions. We begin by discussing those methodologies primarily focusing upon investigating cognitive distortions at a more explicit (e.g., product) level of cognition, moving onto a consideration of those seeking to tap into this cognition at a more implicit (e.g., process and structural) level of cognition.

In Chapter 4, a review of art therapy methodologies which draw upon pictorial cognition, and how these may be used to good effect for investigating those more implicit components of cognition, is outlined. More specifically, this chapter draws attention to the fact

that during those early developmental phases, when IWM and IT content is being formed, information is being encoded in more primitive, non-verbal modes of cognition, of which pictorial cognition is one. Thus, it is argued that art therapy methodology is supremely suited for investigating the deeper, unobservable cognition underpinning cognitive distortions: thereby, transforming this content into empirically visible and measurable forms of experience.

Chapter 5 reports three studies (Studies 1, 2 and 3) which represent the first two preliminary studies and first pilot study, that were conducted in order to investigate whether the measurements we wished to use in the main empirical studies were feasible measurements or required adjustment. The aims of each study were met.

Chapter 6 contains the first empirical study (Study 4) employing a novel paradigm utilizing visualization and drawing methodology from the domain of art therapy, to transform IWM content into visible and measurable forms of experience. Our results suggest that the nature of participants' visualization and the emotional content of their drawings predicted responses on a measure of a Dangerous World (Ward & Keenan, 1999) implicit theory. Dangerous world beliefs were also associated with insecure attachment.

Chapter 7, presents Studies 5 and 6 conducted to address limitations identified in Study 4, and; to explore additional variables of interest. The overall results of Studies 5 and 6 confirmed the results of Study 4. However, not all of the aims of Studies 5 and 6 were met and issues surrounding this are discussed in depth.

Chapter 8 contains the third preliminary study (Study 7) and the last two empirical studies (Study 8 and Study 9), conducted to investigate whether an Uncontrollability IT could be investigated by using a similar approach to the one used for investigating a Dangerous World IT, and; also to explore if a Dangerous World and Uncontrollability IT were meaningfully associated. Using a measure of an Uncontrollability IT, results of these studies, provide some support to indicate drawing tasks can also be successfully used to investigate the cognition

associated with an Uncontrollability IT, and that compared to secure attachment, a more insecure attachment is associated with less controllability. Furthermore, more uncontrollability is associated with a higher belief in a Dangerous World IT and more negative IWM content. However, disappointingly, the findings of Studies 8 and 9 did not return the anticipated level of significant results we had hoped for. Explanations for this outcome are discussed.

Chapter 9 summarises the current findings of the thesis. The discussion in this chapter is centred around the degree to which the level of relationship between visualization content, drawing content, attachment, measurements of a Dangerous World and Uncontrollability IT can be said to offer, evidence of the convergent validity of the drawing task, and: for IWMs, and attachment style to be central to an understanding of problematic ITs. The discussion of methodological limitations centres upon several issues, including suggestions for improving the measure of an Uncontrollability IT, adapting visualization and drawing tasks to better suit investigation of ITs, and of the inclusion of a student population in some studies. A number of directions for future research and practical implications are discussed.

CHAPTER ONE

<u>Attachment and Sexual Offending</u>

As mentioned in the introduction to this thesis, the theme of attachment runs throughout each of the theories of sexual offenders' cognitive distortions to be discussed in Chapter 2. In order to avoid repetition and provide a more structured overview of the various attachment areas, addressed by the different theories, this chapter, divided into five sections, presents them in a more organized (i.e., around a developmental sequence), and in-depth manner. It is argued that a deeper understanding of specific cognitive components implicated in the formation of attachment style, may better inform development of current methodologies employed to investigate forensic cognition.

Section one of this chapter looks at theory and research, which demonstrate the ways in which the ideal early attachment relationship functions to equip the organism with those capacities implicated in an adaptive regulatory system (Knox, 2011; Tronick, 2007). We contemplate how this regulatory system can be compromised, thus creating developmental pathways which are implicated in sexual offenders' cognitive distortions. Section two looks at a key concept of Bowlby's (1969/1982, 1973, 1980), attachment theory: namely his suggestion that early experiences of attachment bonding create a 'master' template, which becomes cognitively encoded in the form of internal working models (e.g., Bowlby, 1988). We will consider, at intervals throughout this thesis, how maladaptive internal working models may also be driving sexual offenders' cognitive distortions at a deeper level of cognitive processing. Section three examines the ways in which Bowlby's attachment theory has been transformed into different attachment styles, herein, we contemplate how different attachment styles are associated with different types of sexual offending. Section four, discusses another of Bowlby's (1969/1982, 1973, 1980) key concepts, that of defensive exclusions. Although defensive exclusions are not directly investigated in this thesis, these constructs underpin the different

attachment styles. Thus, it is argued, that they are a vital piece of the attachment puzzle to acknowledge, particularly when creating new methodologies designed to investigate sexual offenders' cognitive distortions. This chapter draws to a close in section five, by suggesting that the construct of attachment lends itself to be mapped onto a social cognitive perspective of cognition, which in turn, may be useful for both understanding and researching sexual offenders' cognitive distortions.

INTRODUCTION

Current research demonstrates a considerable amount of evidence linking offending behavior, Axis I disorders and psychopathology in later life to early development and attachment patterns (Laws & O'Donohue, 2008; Smallbone & Dadds, 2001; Ward, Polaschek, & Beech, 2006). Attachment theory is seen as a promising framework for understanding the phenomena of sexual aggression and abuse (e.g., Langton, Murad & Humbert, 2017; Rich, 2006, Smallbone, 2006). Attachment orientation is said to influence sexual attitudes, choices and how we view the 'sexual self' (Mikulincer & Shaver, 2007): This in turn impacts sexual self-esteem and feelings of self-efficacy which are influential in initiating and negotiating sexual encounters (e.g., Mikulincer & Shaver, 2007).

The importance of scrutinizing, the entire life history of violent offenders from conception onwards, cannot be underestimated (Denno, 1990). Thus, attachment theory, originally formulated by John Bowlby (Bowlby, 1969/1982, 1973, 1980), is a paradigm that has real meaning and utility in forensic research (Pfäfflin & Adshead, 2004). Its utility lies not only in the explanation it offers of the severe pathology witnessed in forensic populations, but also for consideration in offender treatment programs and forensic related research (Pfäfflin & Adshead, 2004).

The Role of Attachment in Adaptive Functioning

Bowlby's attachment theory aimed to explain why early childhood relationships have such a lasting effect on personality development (Mikulincer & Shaver, 2007). The attachment system is activated at birth (Bowlby, 1969, 1982; Howe, 2005; Kalaat, 2007). The goal of attachment behavior seeks to enhance chances of survival through protection, gained by seeking proximity to the caregiver (Bowlby, 1988; Howe, 2005). Attachment behaviors, triggered by the attachment system, are designed to draw the caregiver towards the baby during

times of need and distress (Howe, 2005). The attachment relationship with the primary caregiver, is the first experience the organism has of being socialized into a social system (Bowlby, 1969/1982). These initial relational experiences inform all future expectations of self/others and the environment (e.g., approachable/safe or to be avoided/threat). In addition, the majority of brain development, particularly as it relates to the 'social brain' happens almost exclusively post-natally: It is not until toddlerhood that the social brain begins to mature (Dunbar, 2009).

Research from the domain of developmental neuroscience, demonstrates how the hard-wiring, biochemistry and neurological organization of the brain, appears to be shaped by attachment experiences (e.g., Schore, 2003a, 2003b; Schore & Schore, 2008). Attachment experiences directly affect how other brain systems, associated with approach and avoidance behaviors develop. For example, exploratory behavior, which is also innate (Howe, 2005), encourages the baby to look outwards, engage with and begin to make sense of self, others and the world (Howe, 2005). Consequently, capacities enabling the organism to function optimally are mostly potential at birth and depend, in the first instance, upon the interplay between baby and caregiver to bring them to fruition (Alvarez, 2012; Dunbar, 2009). In other words, these capacities are experience dependent and therefore highly dependent upon attachment experience.

Attachment and Regulation of the Stress Response System. The way in which we handle stress is said to be at the core of our mental and physical health (Kalat, 2007). Therein, research demonstrates that stressful episodes pre-empt many incidences of offending, especially of a sexual nature (Monahan et al., 2003). The triggering event may be a loss of job, being rejected (real or imagined), or something similar. Equally, there may be no triggering event other than what is going on inside the mind of the offender: 'threat' can be real, imagined, or the re-activation of a remembered threat from the past (Turvey, 2012). It is often difficult to

determine motives, since they seem to be based on psychological rewards known only to the offender (Turvey, 2012). One of the main functions of attachment is to regulate the stress response of the neonate, since the newly born baby cannot yet regulate its own internal biological systems, and requires the caregiver/s to do this for them (Schore, 2003a, 2003b).

The stress response involves activation of a particular cascade of chemical reactions, which respond to neurochemical messages from the amygdala. The amygdala reacts to social situations that represent threat/fear (whether real or imagined) (Kalaat, 2007). When attention and resources are directed towards dealing with threat, they are unavailable for taking in and learning new information/experiences from the environment (Kalaat, 2007). Research demonstrates that learning difficulties are particularly prevalent amongst offending populations (Loucks, 2007)

Attachment and Affect. An affect is described as an instinctual reaction to stimulation (e.g., Omaha, 2004): the biological response that attaches meaning to the internal and external stimuli experienced from moment to moment (Tomkins, 2008). The organism is said to be born with nine[1] innate affective programs, each with its own characteristic feeling, facial display and bodily experience, that have evolved to favour three outcomes: survival, affinity with people and discovery of the new (Tomkins, 2008). These biologically based, innate programs, said to be the origin of 'good' and 'bad', tell us what to pay attention to, and kick-in immediately at birth, moving us to cry, connect and learn (Tomkins, 2008). Affects, said to be the biological system that underlies emotion (Tomkins, 2008), develop in accordance with individual experiences, and become hard-wired physiological (e.g., embodied) building blocks, from which feelings, emotions and moods are subsequently constructed (Omaha, 2004).

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[1] According to Tomkins (2008) there are nine innate affective programs, each located along a continuum of intensity and comprising: two positive (enjoyment-joy, interest-excitement); five negative (fear-terror, distress-anguish, anger-rage, shame-humiliation, disgust-dissmell); and, one neutral (surprise-startle) program (Tomkins, 2008).

Research increasingly demonstrates how affect informs emotions: Emotions in turn, guide our thinking, behavior and actions (e.g., Strongman, 1996).

Adaptive regulation of the stress response system (in the earliest developmental phases by the caregiver/s) will impact upon an individual's ability to regulate affect, and self-organize throughout the lifespan (Gazzaniga, Ivry, & Mangun, 2002; Kalaat, 2007). This also explains why, perhaps, many modern definitions of attachment theory, describe attachment as a theory of emotional regulation (Howe, 2005). Learning to regulate our own emotions without being overwhelmed by them, and to be able to draw upon them in an adaptive fashion, is essential for our mental health (e.g., Knox, 2011). Thus, affect regulation is said to be the foundation for an adaptable healthy organism, whereas affect dysregulation is the basis for clinical intervention (Omaha, 2004). As this thesis progresses, we will see how affect dysregulation is implicated in the formation of sexual offenders' cognitive distortions.

How Attachment Regulates Stress and Affect. As mentioned, stress, is most often generated by that which is, unpredictable, threatening, or indeed, uncontrollable. Babies and young infants supported during times of stress and prevented from becoming too dysregulated for extended periods, are likely to develop learning (i.e., cognitive) templates enabling them to adaptively deal with future stress. This development requires an attuned caregiver (e.g., Alvarez, 2012; Howe, 2005; Meltzoff, 1999). For example, by synchronizing with a baby's affective state, the attuned caregiver tunes into the type of affective arousal (e.g., fear) that the baby may be experiencing and employs mechanisms such as voice (i.e., a calm tone), facial expression (caring) and perhaps gentle arm-rocking to soothe the infant. This attunement indicates to the baby that the caregiver understands the baby's mental state and will not be overwhelmed by it, resulting in the restoration of feelings of comfort and safety for the baby (Alvarez, 2012; Howe, 2005; Meltzoff, 1999).

Based upon repeated experiences, the organism exposed to good attunement

experiences, will also begin to develop his or her own learning (i.e., cognitive) templates enabling them to regulate their own internal systems, emotions and mental states throughout the lifespan. This means that, over time, the baby also learns not to be overwhelmed by his or her own mental states (Howe, 2005). In this way, children with available and attuned caregivers, also develop emotional and cognitive representations/models of the self and others, as there to be trusted and relied upon, during times of need; helping them to conceive the world as being an approachable and safe place (Howe, 2005).

   Attachment, Theory of Mind and Self-Agency. The term Theory of Mind (hereinafter referred to as ToM), originated from a study of chimpanzee behavior (Premack & Woodruff, 1978), but has evolved to entail conceptual and verbal abilities (Korkmaz, 2011). Although a rudimentary ToM is observed in some non-human primates and other animals, it only develops fully in humans (Tomasello, 2008). Having a ToM involves the ability to recognize and understand that what people think, feel and believe (e.g., mindreading, Baron-Cohen, 1995), is usually a good predictor of behavior (Baron-Cohen, 1995). Having a ToM also means the individual comprehends that other people do not always think in the same way, or perceive situations in the same (ego-centric) way they do (Baron-Cohen, 2005).

   A ToM is one of the subcomponents of social cognition, which, encompasses all of those skills required to manage social relationships and communication in humans and also non-humans (Korkmaz, 2011). Impairment of ToM is often associated with the disorder referred to as autism spectrum disorder (ASD: e.g., Frith, 1989). Rates of ASD in forensic populations are said to be four times higher compared to those in non-forensic populations (e.g., Fazio, Pietz, & Denney, 2012). The capacity for social understanding afforded by a ToM, is in turn the basis of empathy (Baron-Cohen, 2005). Empathy is the ability to adaptively and intelligently use emotions to direct perceptions and, therefore, actions and behaviour, within the social environment (e.g., Lerner, 1980).

Increasing victim empathy is a goal of many sex offender treatment programs (Ward & Durrant, 2013). However, Ward and Durrant (2013) point out that despite the face validity of including victim empathy interventions in the treatment of sex offenders, there is little evidence to demonstrate that sex offenders have enduring empathy deficits: more worryingly, that empathy interventions actually result in reduced reoffending (Ward & Durrant, 2013).

However, developmentally, the construct of *self-agency* is said to precede ToM (Fonagy, 2004; Knox, 2011; Howe, 2005), thus is perhaps, even more important to consider than ToM, in the genesis of specific cognitive distortions. At the root of both legal and academic definitions of violence, is the idea of an agentive-self that causes injury to another being (Fonagy, 2004; Knox, 2011; LaVigne & van Rybroek, 2011). An agentive self has an understanding of being a physical entity, in control of, and with a full understanding, and responsibility, for the consequences of their thoughts, beliefs and desires, which result in actions related to self, others and the environment (Knox, 2011; Fonagy, 2004). This reflective ability, to examine one's own conscious thoughts and feelings, is also implicated in the skill of introspection. Introspection concerns the ability to examine one's own conscious thoughts and feelings and to have an awareness of why we are behaving, the way we are behaving (Nisbett & Wilson, 1977).

In essence, self-agency depends upon an individual making the connection that intention precedes action (Fonagy, 2004; Gallagher, 2000; Knox, 2011; LaVigne & van Rybroek, 2011). Fonagy and colleagues (2002) argue that disruption to attachment bonds can lead to a deficit in a sense of self agency, which leads to a failure to mentalize about experiences, so that a lack of self-reflective ability results in a need to deal with psychological distress (as with so many offenders), in a directly physical manner (Fonagy, Gergely, Jurist, & Target, 2002; see also Fonagy, 2004). Fonagy's developmental model (see Appendix I) of self-agency, views a robust sense of self-agency as an emergent construct dependent upon a secure

attachment relationship (Fonagy, 2004); Therein, a deficit/distortion in an individual's sense of self-agency, a pre-requisite for interpersonal violence, is seen as the product of insecure attachment experiences (Fonagy, 2004). A deficit in self-agency can mean that ownership of, and thereby, responsibility for actions, is not experienced (Fonagy, 2004). Fonagy (2004) argues that an individual will possess a physical awareness of his bodily self, thus: will 'know', at some level, that he has committed the aggressive or violent action (Fonagy, 2004). Yet, the subjective experience of these acts, will not be the same as it would be, for acts committed by individuals whose agentive self is intact. This explanation by no means excuses violent acts, which Fonagy (2004) argues are most frequently motivated by self-interest: responsibility for actions can, however, be disowned because of a deficiency of the agentive self (Fonagy, 2004; Knox, 2011).

Research into the link between empathy and cognitions in offenders, analyzed 50 transcripts from a sample of male sex offenders who had abused children (Brown, Walker, Gannon, & Keown, 2013): "The main themes identified were: complete denial; partial denial; justifications: beliefs and attitudes to support offending behavior; excuses: ignoring the perspectives of others; and taking responsibility for own actions" (Brown et al., 2013, p. 275). Complete denial was the most extreme position adopted by offenders and demonstrated a complete lack of empathy. Offenders who used partial denial did not deny the sexual contact occurred but they were said to have "blocked out their thoughts during the actual offences" (Brown et al., 2013, p. 281). Therefore, "the abuse did not 'exist' within the offenders' own realities, and the need for empathy could therefore be avoided" (Brown et al., 2013, p. 281). One offender spoke about how "in my own mind it was as if I was a non-offender." (Brown et al., 2013, p. 282). This could be describing an individual, whose responses, rather than being driven by a need to create a psychologically comfortable position that enables him to offend (Brown et al., 2013), may be driven, instead, by a deficit in a sense of self-agency.

However, in the same way that *both* low and high levels of self-esteem are implicated in offending behavior (e.g., Baumeister, 1996), the same also applies to elevated levels of self-agency. Interesting research by Rich (2006) points out, that many delinquent adolescents, who go onto become offenders, have a strong sense of self-agency and feel very much self-directed and capable of acting upon the world (Rich, 2006). These individuals are consequently aware of their ability to control their world and the people in it (Rich, 2006). Herein, Rich (2006) suggests, that rather than dealing with a deficit in self-agency, we are seeing a deviation from the sense of self-agency that would be expected in a socially connected and personally safe society (Rich, 2006). This kind of deviation from the norm (as with a deficit in self-agency), may "serve self-agency, and in many delinquents quite possibly develop into an exaggerated and grandiose experience of self-agency" (Rich, 2006, p. 68). It is argued, later on in this thesis, that a deficit in self-agency may be implicated in a cognitive distortion identified by Ward (Ward, 2000; Ward & Keenan, 1999) and referred to as an Uncontrollability implicit theory.

Attachment and Internal Working Models

A key concept of Bowlby's (e.g., 1988) theory of attachment, was that he conceived of early experiences of attachment bonding, as creating a sort of 'master' template, informing the developmental integration of other, relationship-based behavioral systems (e.g., Hinde & Stevenson-Hinde, 1991; George & West, 2012). These master templates become cognitively encoded in the form of *internal working models* (hereinafter referred as IWMs), representing what has been referred to as imagistic/mental representations of self and others) (Bowlby, 1969, 1973, 1988; Mikulincer & Shaver, 2007).

If the attachment-figure is experienced as responsive and loving, a positive IWM of self/others will develop and during times of stress/threat, drawn upon to regulate the self. For example, bringing to mind the image of a supportive other when ill in hospital: representing a

protective factor (e.g., Farrington, Loeber, & Ttofi, 2012). Conversely, if the attachment figure abandons the child, is abusive or neglectful, negative IWMs are likely to develop (Bowlby, 1988). Expectations and behavior related to self/others are likely to be more negative and during times of stress/threat, possibly even conjuring up uncaring/frightening and dysregulating imagery (George & West, 2012): representing a potential risk factor (e.g., Farrington et al., 2012). Evidence from clinical, forensic, and representative general population samples, suggests that historical childhood sexual abuse is linked to an increased risk for sexual abuse against others (e.g., Barbaree & Langton, 2006; DeLisi et al., 2014; Langton et al., 2017; Seto & Lalumiere, 2010). However, research in this area, also indicates that a history of childhood sexual abuse does not, on its own, account for the emergence of sexually aggressive or otherwise abusive behavior in adolescence or adulthood (e.g., Hanson & Slater, 1988; Langton et al., 2017).

Sometimes, overly traumatic early experiences can result in an absence of IWMs (LaVigne & van Rybreoek, 2011). For example, Michael LaVigne, who works with juvenile offenders (invariably survivors of abusive childhoods), recounts how his colleague, whilst trying to get to know his client, commented that when: "I asked my client what he talked about. He looked at me like I was crazy. He had no internal life whatsoever. He only knew what went on around him. It was like he was living in a video game" (LaVigne & van Rybroek, 2011, p. 61).

Bowlby regarded IWMs as evolving entities, with the potential to be updated in light of new and altered relationships, or even through heightened awareness (Wallin, 2007). The most functional IWMs of attachment, are *working* models, which have a provisional quality about them, meaning they are open to modification on the basis of new experience: This quality of IWMs is associated with a secure attachment style, whereas insecure attachment related IWMs, tend to be less open to modification (George & West, 2012; Wallin, 2007). Relating an

insecure attachment style to the domain of sexual-offending, Marshall and Marshall (2000) suggest that in lieu of the development of more adaptive coping strategies, sexual-offenders may employ sex as an anxiety-alleviating coping mechanism.

As pointed out, research indicates that stressful episodes trigger much offending (Ward et al., 2006a). Negative and threatening experiences associated with insecure attachment, may also be implicated in the development of a *Dangerous World* IT, a more general level IT purported to be held by sex-offenders (Ward, 2000). Individuals with this belief, are said to view the world as a perilous place, dominated by people who are negative, abusive and self-promoting: Wherein, it is important to defend oneself by retaliating and in some cases, gaining dominion over others (Ward & Keenan, 1999).

Following Ainsworth's early observational work (i.e., the Strange Situation paradigm, see Ainsworth, Blehar, Waters, & Wall, 1978), and subsequent developments in methodology, several measures of adult attachment were developed (Mikulincer & Shaver, 2007), one of the best known, being the Adult Attachment Interview (AAI) (George, Kaplan, & Main, 1985; Main, Kaplan, & Cassidy, 1985). Using this methodology, four types of adult attachment, secure (autonomous), preoccupied (ambivalent), fearful and dismissive (avoidant), which map onto two major dimensions of anxiety and avoidance (see Figure I), have been identified (Bartholomew, 1990): Due to the dimensional nature of this construct, further sub-classifications of each attachment category exist (e.g., Mikulincer & Shaver, 2007).

Secure/autonomous attachment in adults, is thus typified by being independent, feeling comfortable with intimacy and an ability to balance these in relationships, a positive view of the self, others and partners (George et al., 1984; Keogh, 2012; Main et al., 1985). Preoccupied/ambivalent attachment is characterized by an overly dependent style, an excessive need for approval and intense feelings of unworthiness, having a positive view of others but a negative view of one's self (George et al., 1985; Keogh, 2012; Main et al., 1985).

Dismissive/avoidant attachment in adults, minimizes the importance of intimate relationships, and is characterized by a compulsive self-reliance and positive self-image (George & West, 2012).
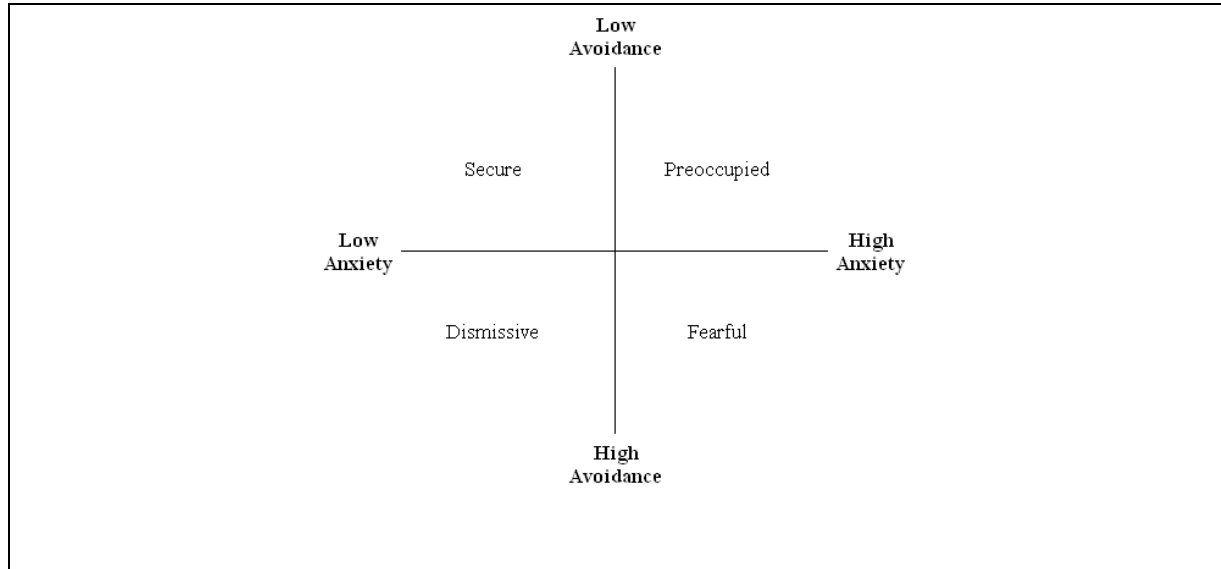
Figure 1: Diagram of the two-dimensional space defined by attachment anxiety and avoidance, indicating the quadrant names suggested by Bartholomew (1990).

Fearful/avoidant attachment style avoids intimacy and demonstrates difficulty in trusting others, they believe themselves to be unlovable and perceive others as uncaring and unavailable (George et al., 1984; Keogh, 2012; Main et al., 1985).

Table 1. Positive – negative axes which map onto the four main types of adult attachment (after Bartholomew, 1990).

Model self-other	Positive (self)	Negative (self)
Positive (other)	Secure	Preoccupied
Negative (other)	Dismissing	Fearful

Compared to dismissing/avoidant; fearful avoidant are less able to suppress their thoughts/feelings (Fraley & Shaver, 1997). The mechanisms by which attachment difficulties affect behavior are still said to be poorly understood, however, it is clear that they are cognitively mediated (Keogh, 2012). Other research suggests that secure and dismissing attachment styles are associated with higher self-esteem compared to anxious/ambivalent and fearful attachment styles (Bartholomew & Horowitz, 1991). This, in turn, corresponds to the distinction between positive and negative thoughts about the self in working models (Bartholomew & Horowitz, 1991: see also Table 1 above). Compared to dismissive and fearful, secure and ambivalent attachment styles are associated with higher sociability (Bartholomew & Horowitz, 1991).

The common practice of relying exclusively on general/global measures of attachment has, however, been criticized (Baldwin et al.,1993; La Guardia, Ryan, Couchman, & Deci, 2000). Baldwin and colleagues (1993) have demonstrated considerable within-person variability across a variety of relational contexts. Thus, attachment style may not be as trait-like as often assumed (Baldwin et al., 1993). Nonetheless, secure attachment styles appear not to exhibit as great a degree of differentiation as those with insecure attachments (Donahue, Robins, Roberts, & John, 1993).

Research appears to indicate attachment style and not personality style is the most reliable guide to inner emotional resources (Gunnar & Nelson, 1994). Adult attachment style has also been shown to be related, in theoretically predictable ways to major personality constructs such as the Big Five personality traits (e.g., McCrae & Costa, 1987): therein, it has been suggested that measurements such as the Big Five, are repackaged versions of attachment style (Shaver & Brennan, 1992). The Big Five personality dimensions have been used to classify personality traits in sex offenders (Becerra-Garcia et al., 2013).

Attachment Style and Sexual Offending

It is suggested that attachment styles of children can help to account for the development of juvenile sex offending (Keogh, 2012). Despite the dearth of empirical evidence concerning juvenile sex offenders and attachment style (Goodrow & Lim, 1998), research employing path analysis, has hinted at an aetiological link between juvenile sexual recidivism and disrupted developmental/attachment experiences (Kenny, Keogh, & Seidler, 2001; Keogh, 2012). Similarly, adult sexual offenders invariably present with developmental problems and clinical characteristics, that appear to be related to their early attachment experiences (Burk & Burkhart, 2003; Keogh, 2012). It must be stated, however, that it is still unclear as to what extent, incapacity for attachment relates to the *development* of sexual offending (Keogh, 2012; Ward et al., 1996). Additionally, a developmental life course pathway to sexual offending has been challenged for its overemphasis on the early years with its seemingly deterministic perspective (e.g., Laub & Sampson, 2003; see also Lussier, 2017).

Research shows that adult sexual offenders report less secure childhood and adult attachment experiences than non-offenders and non-sex offenders (Cortoni & Marshall, 1995; Gal & Hoge, 1999; Keogh, 2012; Smallbone & Dadds, 1998). However, other studies conducted with CSOs, rapists, violent non-sex offenders and non-violent, non-sex offenders

found that, whereas the majority of sex offenders were insecurely attached, that this was true for all four groups: therefore, most likely to be a general vulnerability, rather than being specific to sex offenders (Ward, Hudson, & Marshall, 1996). Additional research indicates there is a trend for the fathers of rapists to have been physically abusive and alcoholic (e.g., Langevin et al., 1984). Child molesters report as often having suffered abandonment and physical abuse as children (Tingle, Barnard, Robbins, Newman, & Hutchinson, 1986). Intra-familial child sex offenders tend to have histories that include problematic relationships with their mothers (Smallbone & Dadds, 2000). It is suggested that the type of childhood experiences (i.e., positive/negative) an offender has had, are a more theoretically meaningful and informative construct to work with than the type of sexual offence they have committed (Becerra-Garcia et al., 2012).

Research appears to indicate that sex offenders with preoccupied attachment, seek more emotional involvement with their victims compared to sex offenders with dismissive styles, who tend to be more coercive and controlling with victims (e.g., Keogh, 2012; Smallbone & Dadds, 1998). Therein, adult rapists have been shown to have dismissive attachment styles whereas child sex offenders have more preoccupied attachment styles, typified by an active, though highly anxious and ambivalent, interest in relationships (Stirpe, Abracen, Stermac, & Wilson, 2006; Ward et al., 1996). In keeping with the characteristics of these attachment styles, rapists have been found to spend only as much time, as necessary with their victims, in order to perpetrate the sexual/violent acts. On the other hand, child sex offenders tend to engage in perverse forms of courtship as they groom their victims (Smallbone & Dadds, 1998). For intra-familial offenders, a need for affection is cited as one motivation in their offending against children (Ward, Hudson, & France, 1993).

A theoretical framework integrating findings related to attachment and intimacy deficits has been used to explain sex offence type amongst adult sex offenders (Hudson &

Ward, 1997; Keogh, 2012; Ward, Hudson, Marshall, & Seigert, 1995). Three categories of insecure attachment, which may explain differences in adult sex offenders, have been suggested by the data (Ward et al., 1996), and comprise: (1) anxious/ambivalent, (2) avoidant I and (3) avoidant II. Category I refers to overly dependent individuals, likely to offend against children; Category 2 describes those who are fearful of adults and prefer non-rejecting partners; Category 3 includes those who do not seek relationships and are hostile. Individuals in each category possess intimacy deficits. The links between these categories and adult attachment styles are as follows (see also Table 2): preoccupied attachment style, equates to Category I; fearful/avoidant attachment style to Category 2, and; dismissing/avoidant attachment style is associated with Category 3.

A dismissive attachment style is a potential predictor for the development of psychopathic behavior (e.g., Keogh, 2012). From an attachment perspective, psychopathic individuals are shown to be the most impaired in their capacity for attachment, and their attachment style can be described as 'detachment' (Keogh, 2012, p. 41). When compared to sexual homicide perpetrators, and non-violent child sex offenders, non-sexually offending psychopaths have been found to have the lowest level of interest in attachment or relationship to others (e.g., Bridges, Wilson, & Gacono, 1998).

The incapacity for this group of offenders to use affect in decision making, renders them especially, and uniquely vulnerable, to inverting logic and unable to engage with "discrepant reality" (Keogh, 2012, p. 38) in a manner that enables them to modify their behavior in appropriate ways (Crittenden, 1997; Keogh, 2012).

Borderline personality disorder (BPD), an Axis II disorder associated with a disorganized (e.g., Main & Soloman, 1990), insecure attachment style is said to be over-represented in the prison population, compared with the general population (Sansone &

Sansone, 2009). Overall, female criminals appear to exhibit higher rates of BPD, which is in turn associated with a history of childhood sexual abuse, perpetration of impulsive and violent

Table 2. Adult attachment styles associated with adult sex offender type (Keogh, 2012).

Secure attachment/non offender	*Preoccupied attachment/proclivity for child molestation*
Normal attachment needs Associated with positive view of self and others.	Attachment hunger associated with negative view of the self and positive, yet insecure view of others.
Dismissive attachment/ Propensity for rape (adult victims)	*Fearful attachment/propensity for Sexual offending (child victims)*
Hostile view of attachment associated with positive view of self and negative view of others	Minimizes importance of attachment associated with negative view of self and others.

crimes, comorbid antisocial traits, and incarceration for domestic violence (Sansone & Sansone, 2009). Diagnoses of BPD are said to be more common in female than male sexual abusers (Nathan & Ward, 2001). Equally, the reported rates of personality disorders within prison populations varies considerably: This may be attributable to the different methodologies and populations that are employed (Sansone & Sansone, 2009). Ward and collegeaues, referring to treatment initiatives, have stressed the importance of assessing attachment style of sex offenders, since treatment goals are likely to vary as a function of this factor (Ward et al., 1996).

Perhaps the enduring link between attachment style and cognitive distortions, constructs which are both formed during early development: the templates for each being encoded within those more non-verbal modes of cognition; is that both constructs are underpinned by the same cognitive structures referred to as IWMs. This is an argument which will be developed as this thesis progresses.

Attachment Style and Defensive Exclusions

Although the novel paradigm in this thesis directly investigates attachment style and, somewhat more indirectly, IWMs, it does not investigate Bowlby's (1969/1982, 1973, 1980) construct of defensive exclusions. This is due to the fact that in order to safely and ethically investigate defensive exclusions, specific training in the use of the required methodology (the Adult Attachment Projective System [AAP], George & West, 2012), is necessary. However, in order to fully appreciate why attachment is a vital construct to consider when investigating and designing interventions related to forensic cognition, defensive exclusions, are a vital piece of the attachment puzzle to discuss. The area of defensive exclusions is much neglected by attachment writers, and only recently operationally defined for application to theory building and assessment by George and West (2012).

Informed by the Adult Attachment Interview (AAI) (e.g., George et al., 1985; Main & Goldwyn, 1988), George and West (2012) have created the AAP, to measure individual defensive exclusions. This methodology demonstrates good predictive concordant validity with the AAI, "the gold standard assessment in developmental adult attachment research" (George & West, 2012, p. 50). Bowlby developed the term *defensive exclusion* as a conceptual bridge to explain what was happening, for the child, on an intra-psychic level during attachment separation/reunion (Bowlby, 1969/1982, 1973, 1980). In other words, to explain what was mediating between an individual's IWMs and their observed attachment. For example, Bowlby understood the 'detachment' to the child's mother upon her return after separation (i.e., Strange Situation, Ainsworth et al., 1978), as a behavioral manifestation of affect being internally repressed/defensively excluded against.

Bowlby, asserted that defenses are a normal part of human behavior: adaptive in that during those moments of engagement they preserve the integrity (i.e., self-esteem), of the internal mental representation/working model of the self, or an important other. What is

pathological, being not so much the defensive process itself, as the scope, flexibility of employment and therein contextual appropriateness (George & West, 2012): Rigid employment "impedes the re-categorization of old memories and restricts the capacity to create new meanings" (George & West, 2012, p. 79). Therein, a secure attachment style being denoted not by a lack of defenses, but an ability to employ these mechanisms in a context appropriate and flexible manner (George & West, 2012): Resulting in a less biased and more introspected and mode of information processing (George & West, 2012). Bowlby elaborated two general levels of defensive exclusion, *deactivation* and *disconnection*.

Deactivation is defensive exclusion at the initial perceptual level of attachment-relevant information: a *pre-emptive* strategy at the *encoding* stage (e.g., see Atkinson & Shriffin, 1968) of information processing: attachment distress and associated details are dismissed and never consciously processed or transformed in some way so they are not distressing (Bowlby, 1969/1982, 1973, 1980; George & West, 2012). High self-esteem and absence of negative attributes, associated with this defensive exclusion, are interpreted as defensiveness (Mikulincer & Shaver, 2007). This level of exclusion is associated with an avoidant/dismissive attachment style (Cassidy & Kobak, 1988). Rigidly employed during infancy, this defensive exclusion may result in an impoverished selection of IWMs for an individual to draw upon (George & West, 2012).

Cognitive Disconnection is associated with a more conscious level of awareness of the activation of attachment situation and affect: involving an immediate disconnection of 'affect, cause, source and effect', enabling; interpretation of the meaning to be disallowed and 'glossed-over' at a *pre-reflective* level of awareness. Associated with an ambivalent/anxious attachment style it is a *post-emptive* defense, aimed at repressing material: implemented at the *retrieval* level of information processing (Fraley & Brumbaugh, 2007; George & West, 2012). It is a less effective defense than pre-emptive strategies, since unwanted information is already

encoded and represented in memory (Fraley & Brumbaugh, 2007). The correct trigger presenting itself creates the potential for unwanted information to be reactivated undermining the defensive mechanism and rendering an individual vulnerable.

The interpersonal situation becomes subsumed by the preoccupation of the individual upon his/her own internal reactions. Processing becoming confused, cues misidentified and the social interaction becomes a complicated web (George & West, 2012). Research by Malamuth and Brown (1994), found that men with a proclivity towards Rape Myth Acceptance (Burt, 1980), and sexually aggressive behavior (Koss & Oros, 1982), demonstrated confusion and mis-identification deficits in their ability to perceive women's social cues (Malamuth & Brown, 1994).

Segregated Systems are the result of complete defensive exclusion (George & West, 2012). Bowlby (1980) introduced this level to explain the defenses involved in attempts to come to terms with experiences of loss through death (Bowlby, 1980; George & West, 2012). Contemporary attachment research has extended this level to think about attachment trauma (George & West, 2012). At this level, memories of experiences are encoded and stored in separate representational models blocked/dissociated from consciousness (George & West, 2012). Segregated systems are incredibly rigid and prone to breaking down under stress: A collapse releasing segregated material, often resulting in mental dysregulation, attachment disorganization and dissociation (George & West, 2012). This level is associated with a disorganized attachment style (Bowlby, 1980; Main & Soloman, 1990), implicated in BPD (George & West, 2012).

Mapping the Construct of Attachment onto a Social Cognitive Perspective of Cognition.

Considered in its entirety, it is argued in this thesis, that Bowlby's (1969/1982, 1973, 1982, 1980), tripartite conception of attachment, can be mapped onto a social cognitive

perspective of cognition (Table 3). A social cognitive perspective, emphasises the implicit and unconscious nature of humans' beliefs (e.g., Kunda, 1999). Albeit something of a didactic simplification, cognition can be broken down into three facets—products, processes, and structures (Hollon & Kriss, 1984). Explicit and more observable in nature, cognitive products provide hints (e.g., through the language used) that enable psychologists to make inferences about what the content, organization, and systematic relationships between these three layers of cognition may be (Haaga, 1997; Hollon & Kriss, 1984). Representing the tip of the iceberg then, cognitive products are the outcome of interactions between cognitive structures and processes, located at more implicit levels of cognition (Langton, 2007). In this way, cognition can be understood to be a reciprocal, recursive, dynamic process (Hollon & Kriss, 1984).

Cognitive processes are concerned with the ways in which the mind manipulates and/or incorporates the internal and external stimuli with which an individual is presented: what is attended to, how it is perceived, what interpretations and attributions are then made, and; how the new information that is perceived then interacts with pre-existing cognitive structures (e.g., to alter) (Hollon & Kriss, 1984; Langton, 2007). Cognitive processes are said to explain how deep structures become translated into surface structures (i.e., cognitive products) (Hollon & Kriss, 1984; Kihlstrom & Nasby, 1981), and contain the transformational rules enabling input to be transformed into judgements (Hollon & Kriss, 1984). These constructs are also implicated as being responsible for the maladaptations (e.g., self-fulling prophecies, Darley & Fazio, 1980; Merton, 1948) that arise with cognitive products, and: for the inflexible and unchanging quality of specific cognitive structures (Hollon & Kriss, 1984). Cognitive processes, such as denial, minimization, self-deception, victim-blaming, and impression management (Marshall, Anderson, & Fernandez, 1999; Mihailides, Devilly, & Ward, 2004; Payne & Giacalone, 1990) can thus, be conceived of as mediating between cognitive structures and cognitive products.

Cognitive structures are hypothetical structures, composed of an individual's stored knowledge and memories, regarding the self and the world (Hollon & Kriss, 1984), and can be thought of as organisational units of associated networks of meaning (Hollon & Kriss, 1984). The conceptualisations and terminology employed to describe these organisational units varies (Langton, 2007), to include scripts (e.g., Abelson, 1981), schema (e.g., Markus, 1977), stereotypes and prototypes (e.g., Cantor, Mischel, & Schwarz, 2005; Segal, 1988). Information and knowledge informing cognitive structures, is believed to be received and processed by the individual in the past (Hollon & Kriss, 1984; Thorndyke & Hayes-Roth, 1979): likely beginning during very early, pre-verbal development (e.g., Piaget, 1967); and is rarely available to consciousness: assuming an implicit, or unconscious, nature (e.g., Hollon & Kriss, 1984).

These systems of psychological organization and self-regulation, "encoded physiologically in body-tissues and biochemical events, affectively as sub-cortical brain stimulation and cognitively in the form of beliefs, attitudes and values…form a blueprint that guides the way we live our lives" (Erskine, 2010, p. 2). Formed from unconscious memories (Erskine, 2008; Fosshage, 2005), they become "expressed through physiological discomforts, escalations or minimizations of affect, and the transferences that occur in everyday life" (Erskine, 2010, p.2).

In the complex, fast-paced and often, ambiguous worlds we live in, a reliance on pre-existing, heuristic information stored in cognitive structures, enables humans to make sense of this complexity by permitting greater information processing efficiency (e.g., Hollon & Kriss, 1984; Tversky & Kahneman, 1974): instead of having to continually engage in conscious, effortful and systematic processing. However, a key characteristic of heuristic strategies such as schemata, is that they operate at an automatic level of information processing, outside of conscious awareness (e.g., Tversky & Kahneman, 1974), and usually beyond our conscious

control (e.g., Bargh, 1994; Bargh & Chartrand, 1999; Kunda, 1999). Once activated, the

employment of heuristic strategies such as schemata, can lead to an attentional bias, thereby

reducing an individual's capacities for perceiving the world rationally and accurately

Considered within this framework, attachment styles, initially originating from the

observational studies of Ainsworth et al. (1978), can be seen as representing the construct of

attachment at the product level of cognition, defensive exclusions, as being located at the

process level of cognition, with IWMs situated at the structural level of cognition (Table 3): It

is suggested that viewing the construct of attachment in this manner, may be useful for better

appreciating why inclusion of this construct as a research variable, when investigating forensic

cognition, particularly contextualized within an IT theory framework, may be beneficial; an

idea that is unpacked as this thesis progresses.

Table 3. Mapping Bowlby's Tripartite Conception of Attachment onto a Social Cognitive

Perspective of Cognition.

Level of cognition	Secure Attachment	Insecure Attachment
Structural	Positive emotional IWM content as a consequence of a secure attachment experience.	Negative emotional IWM content as a consequence of a less than secure attachment experience.
Process	Flexible defensive exclusions which enable IWM content to be updated and modified.	More rigid defensive exclusions which limit/prevent the potential for negative IWM content to be updated and modified.
Product	Verbal statements/explicitly observable behavior which is adaptive.	Negative verbal statements/explicitly observable behavior which is maladaptive.

CONCLUSION

The main aim of this chapter was to explore the ways in which attachment theory, as a paradigm, has real meaning and utility in forensic research related to an understanding of the development of sexual offenders' cognitive distortions. In section one of this chapter we looked at theory and research, demonstrating the ways in which the ideal, early attachment relationship, functions to nurture and scaffold vital processes, and components implicated in the infant's own regulatory capacities (Knox, 2011, p. 45; Tronick, 2007). We then considered how the quality of this regulation is said to impact upon other developmental processes, such as: mentalization, ToM, empathy and self-agency - deficits of which, are implicated in the formation of sexual offenders' cognitive distortions.

In section two we looked at Bowlby's (1969/1982, 1973, 1980) concept of IWMs noting how positive attachment experiences are said to create positive IWMs within the organism, with negative attachment experiences creating less positive/negative IWMs. In section three, we saw how positive and negative attachment experiences, are translated into secure or insecure attachment styles, respectively. We also considered the ways in which different types of attachment style have been linked to specific categories of sexual offending. Section four of this chapter drew attention to, a much neglected, but as was argued, vital piece of the attachment puzzle, Bowlby's (1969/1982, 1973, 1980) concept of defensive exclusions. This chapter ended with section six outlining the way in which the tripartite construct of attachment lends itself to being mapped onto a social cognitive perspective of cognition.

As we move onto the next, and remaining chapters in this thesis, it is hoped that this chapter has paved the way for an appreciation of why attachment theory, is vital for consideration not only in offender treatment programs, but also in forensic related research.

CHAPTER TWO

<u>Theories of Sexual Offenders' Cognitive Distortions</u>

This chapter, divided into six sections, takes a look at existing theories of sexual offenders' cognitive distortions. The discussion in this chapter is contextualized within Ward and Hudson's (1998) three-level meta-theoretical framework, and a theory-appraisal criteria, adopted from Hooker (1987) and Newton-Smith (2002), which are outlined in section one of this chapter: The former was designed as a means for classifying theories based on their level of generality of focus, and the latter created to provide a framework of dimensions for meaningfully evaluating theories (Ward, et al., 2006a). Section two discusses Abel, Becker, and Cunningham-Rathner's (1984) Theory of Cognitive Distortions, whilst section three focuses upon Ward's (2000; Polaschek & Ward, 2002; Ward & Keenan, 1999) Implicit Theories Theory of Cognitive Distortions: said to be two of the most influential theories of cognitive distortions (e.g., Ó Ciardha, Gannon, & Ward, 2017; Ward et al., 2006a). Section four looks at the Judgment Model of Cognitive Distortions (JMCD) (Ward, Gannon, & Keown, 2006; Ward, Keown, & Gannon, 2007), and section five discusses Ward and Casey's (2010) Extended Mind Theory of Cognitive Distortions. As this chapter draws to a conclusion, a working definition of the term 'cognitive distortion', as it relates to the domain of forensic cognition, is outlined in section six: it is this working definition that will be employed throughout the remainder of this thesis.

INTRODUCTION

The term *cognitive distortion* originated within the domain of clinical psychology, and was first used by Beck (1963) in relation to depression, in an attempt to describe the intrusive and disruptive thoughts associated with this disorder (Beck, 1963; Gannon, Ward, Beech, & Fisher, 2007a). Beck considered these maladaptive thoughts, to be fundamental to the clinical condition of his patients. He suggested that in order to bring about successful therapeutic outcomes, these maladaptive thoughts needed to be targeted in a therapeutic context (Beck, 1963; Gannon, Ward, & Collie, 2007). Thereafter, the first use of the term cognitive distortion, in the sexual offending literature, is attributed to Gene Abel and colleagues, arising from their work with child sex offenders (CSOs: Gannon & Polaschek, 2006; Ward et al., 2006a).

As Ward, et al. (2006a) point out, "cognitive distortions are only one aspect of any account of the role of cognition in sexual offending" (Ward et al., 2006a, p. 115) and that "cognitive processes and products – normal or distorted – occur throughout the offending cycle" (Ward et al., 2006a, p. 115). Following the seminal work of Abel and colleagues, the term, cognitive distortion, has become a crucial concept in theories of sex offending, particularly relating to CSOs (e.g., Howitt & Sheldon, 2007). In relation to the crime of rape, Burt (1980) also articulated a similar idea, with the distorted cognitions implicated in rape referred to as "rape myths" (Burt, 1980; Howitt & Sheldon, 2007). However, cognitive distortions and rape myths are said to be distinct concepts with equally distinct etiologies (Howitt & Sheldon, 2007). For example, rape myths are common throughout society and, according to feminist writings, have become a normal part of male and female thinking (Howitt & Sheldon, 2007). On the other hand, cognitive distortions are seen to be deviations from, or distortions, of, normal thinking (Howitt & Sheldon, 2007). Before discussing each of these four theories, Ward and Hudson's (1998) three-level meta-theoretical framework, and Hooker

(1987) and Newton-Smith's (2002) theory appraisal criteria–frameworks, within which these theories are both classified and evaluated, are outlined.

Ward and Hudson's (1998) three-level meta-theoretical framework, and Hooker (1987) and Newton-Smith's (2002) theory appraisal criteria

Levels of theory. In Ward and Hudson's (1998) framework, theories are described with regard to their level of generality of focus (Ward & Hudson, 1998). *Level I*, is employed to denote multifactorial theories which are comprehensive in nature. This level of theory provides a broad, systematic account of how development experiences, social and cultural learning, together with associated evolved mechanisms, combine to result in an offence related profile. It is suggested, that a satisfactory explanation of sexual abuse, is likely to be multifactorial in nature, thus allowing for a range of etiological pathways implicated in the onset, and maintenance of sexual offending (e.g., Ward et al., 2006a).

Level II theories are single-factor and can be seen as fitting into multifactorial theories, of which all of the theories of cognitive distortions reviewed in this chapter, are an example. Therein, it is assumed that reoffending may be prevented by addressing distorted cognitions in therapy, often framed within a cognitive behavioral approach (Howitt & Sheldon, 2007). With little evidence available to support the theory, it is argued that the area of cognitive distortions has achieved a centrality within forensic domains that exceeds its demonstrated importance (Auburn, 2010; Howitt & Sheldon, 2007). Nevertheless, although it is acknowledged that a comprehensive theory of sexual offending is most likely one that is multifactorial (Ward et al., 2006a), whilst unlikely to singularly explain why individuals commit offences, Ó Ciardha, Gannon, and Ward (2017) state that, single-factor theories such as those dealing with cognitive distortions, remain "a crucial part of the etiological puzzle" (p. 209).

Level III theories comprise micro-level, or offence process theories, and are descriptive models of the offending pathway and/or relapse process (e.g., Pithers, 1990). Typically, this level of theory deals with cognitive, behavioral, motivational and social factors, which, over time, have come to be associated with carrying out a sexual offence (Ward et al., 2006a).

Appraisal criteria. The appraisal themes (duly summarised), from Hooker (1987) and Newton-Smith (2002), and recommended for use within the forensic domain (as cited in Ward et al., 2006a), cover the following evaluative dimensions:

1.   *Empirical, predictive adequacy and scope*: Does the theory fully account for related findings in the literature: Therein, are the hypotheses made by a theory supported by empirical evidence?

2.   *Internal coherence*: Are there any contradictions or gaps in logic within the theory?

3.   *External consistency*: Is the theory in agreement with with other currently accepted/related theories (i.e., neuroscience, descriptive psychopathology).

4.   *Unifying power*: Is theory drawn together in an innovative way perhaps unifying and accounting for aspects of a domain of research previously considered separate?

5.   *Fertility or heuristic*: Are new fruitful avenues of research or treatment opened up by this theory?

6.   *Simplicity*: Given the available evidence, does the theory explain phenomena simply?

7.   *Explanatory depth*: Are phenomena sufficiently explained beyond a surface level? Are

deeper processes/mechanisms accounted for.

Abel, Becker, & Cunningham-Rathner's theory of cognitive distortions in sexual offenders

Abel and colleagues are credited with the first attempt to investigate the cognition of CSOS, through examining their cognitive products in clinical contexts (Gannon & Wood, 2007; Ó Ciardha et al., 2017a; Ó Ciardha & Ward, 2013). They are additionally credited for taking the term cognitive distortion and applying it to the area of antisocial behavior (Ward et al., 2006a). As mentioned in the introduction to this chapter, the term *cognitive distortion* was already employed within the domain of clinical psychology to explain thinking associated with various psychopathologies (i.e., depression; Beck, 1976). However, in his work, Abel referenced, not Beck, but the influence of social learning theory and Bandura's (e.g., 1986) notion of *faulty thinking* (see Bandura, 1986) in his conception of cognitive distortions (Ó Ciardha & Ward, 2013; Ward et al., 2006a).

Although Abel's research tended to focus on CSOs, Ward et al. (2006a) draw attention to the fact that, in some of his writing (e.g., Abel, Becker, & Skinner, 1987; Abel, Mittelman & Becker, 1985), Abel saw his conceptualization of cognitive distortions, as also being applicable to rapists (Ward et al., 2006a). In an effort to explain how maladaptive feelings of sexual attraction towards pre-pubescent children develop in men, Abel and colleagues argued that CSO's develop atypical beliefs (cognitive distortions), which become verbally expressed (i.e., as cognitive products), about the appropriateness of adult sexual interactions with children (Abel et al., 1984). Abel and colleagues (drawing upon social learning theory), suggested that during a boy's childhood, a process takes place which can be thought of as a form of societal

shaping (Gannon et al., 2007a): During this time, any deviant sexual interests become challenged, and thus modified, in line with social norms and expectations (Abel et al., 1984; Thakker, Ward, & Navathe, 2007).

For reasons that were not clearly articulated by Abel and colleagues (Ward et al., 2006a), in some boys, this modification does not appear to happen (Abel et al., 1984). When these boys reach adulthood, unchallenged deviant attitudes and interests, are said to result in the manifestation of deviant arousal, and sexual fantasy (Abel & Blanchard, 1974): likely reinforced throughout by masturbation (Abel et al., 1984). At some point during this process, the knowledge that these sexual preferences go against the norms of society, comes into the conscious awareness of these individuals. These individuals then need to find ways to justify their feelings, and deal with the internal conflict that arises: hence, the creation of cognitive distortions, which, in established offenders, were believed to become more entrenched over time (Abel et al., 1986).

Consequently, cognitive distortions were viewed as helping to minimize any internal, emotional distress, and/or cognitive dissonance (e.g., Festinger, 1957), associated with offenders' sexually abusive behavior, thus facilitating the likelihood of further re-offending (Gannon & Wood, 2007). Perceived in this way, cognitive distortions seem to be understood by Abel et al. (1984) as arising out of a motivation to offend and to combat cognitive dissonance, thus: rather than causing sexual assault propensity, these constructs appear to have been conceived of by Abel, as operating in ways to facilitate, or maintain sexual offending (Ward et al., 2006a).

Abel and colleagues (1989) observed, rather intriguingly, that in order to be able to maintain their self-justifications, established offenders tend to resist discussion opportunities with other adults, wherein a critical evaluation of their beliefs might take place (Abel et al., 1989). This perspective, by default, as pointed out by Ward et al. (2006a), suggests that

offenders possess some degree of (minimal) awareness of the self-serving inaccuracies of their own deceptive cognitions (e.g., motivated self-deception; Baumeister, 1996; Baumeister, Tice, & Hutton, 1989; Wright & Schneider, 1997). Thakker et al. (2007) also draw our attention to the interesting observation that Abel et al.'s (1994) conception of cognitive distortions, bears strong similarity to components of Freud's Psychoanalytic theory (e.g., Freud, 1923, 1936): indicating that cognitive distortions operate as defense mechanisms (Thakker et al., 2007) similar, perhaps, to defensive exclusions. This perspective then, would rather seem to locate cognitive distortions at a process level of cognition.

Abel outlined seven cognitive distortions (see Table 4) most commonly articulated by CSOs. By compiling lists of CSOs' offence supportive cognitive products, Abel and colleagues (1989) used these to develop a 29-item self-report measurement scale, called the Cognitions Scale (CS: Abel et al., 1989), for assessing the presence of cognitive distortions in CSOs. In the CS, a range of offence-supportive cognitions, in the form of written statements, are presented to respondents who are required (using a Likert-type scale), to indicate the strength of their agreement with each statement. An example question is, "Having sex with a child is a good way for an adult to teach the child about sex" (Abel et al., 1984). Research has indicated that this scale may be too complex to use with offenders with learning and intellectual disabilities (e.g., Canton & Hancock, 2007), thus a modified version has subsequently been devised (Kolton, Boer, & Boer, 2001).

Table 4. Abel, Gore and Holland's (1989) Seven Cognitive Distortions (an abbreviated version)

Abel, Gore and Holland's (1989) 7 Cognitive Distortions

1	A child who does not physically resist sexual advances really wants to have sex.
2	Having sex with a child is a good way for an adult to teach a child about sex.
3	Children do not tell others about having sex with a parent because they really enjoy the sexual activity and want it to continue.
4	Sometime in the future our society will come to realize that sex between a child and an adult is acceptable.
5	An adult who only feels a child's body or genitals is not really being sexual with the child so no harm is done.
6	When a child asks an adult a question about sex it means that the child wants to see the adult's genitals or have sex with them.
7	Relationships with children are enhanced by my having sex with them.

Evaluation of Abel's Theory. As with each of the theories in this chapter, Abel's theory deals with an individual factor (i.e., cognitive distortions) as being at the center of sex-offending etiology, thus is evaluated within the parameters for a level II theory. Overall, the high *heuristic* value of Abel's theory means that it has been instrumental in shaping both research and practice surrounding offending cognition, and still, to-date, remains very influential (Ó Ciardha et al., 2017a; Ward et al., 2007). As the first theory to attempt to explicate a theoretical understanding of the significance of offender statements, and their implication for sex-offender cognitive behavioral treatment programs, the contribution of this theory to the field is substantial (Ward et al., 2006a). However, an evaluation of Abel's theory employing Hooker (1987) and Newton-Smith's (2002) summarized appraisal criteria, reveals several issues (Ó Ciardha et al., 2017a).

One of the challenges with Abel's theory is that it is open to the risk of being interpreted in a variety of ways since it "must be drawn together from disparate sources" (Ó Ciardha et al., 2017a, p. 210). However, when pieced together, Abel and colleagues appear to view cognitive distortions as resulting from a process of cognitive dissonance which itself stems from a sexual interest that is deviant in nature (Ó Ciardha et al., 2017a). Cognitive distortions undergo strengthening through masturbation initially, thereafter through offending behavior, and in the face of conflicting social mores, serve to justify sexual arousal (Ó Ciardha et al., 2017a). Consequently, it would seem that Abel mainly views the function of cognitive distortions from the perspective of a maintenance role as it relates to sexual offending. However the lack of clarity here, renders the theory somewhat *internally inconsistent* (Ó Ciardha et al., 2017a). This lack of clarity in *internal coherence* has also lead other researchers (e.g., Mann & Beech, 2003; Murphy, 1990) to interpret Abel's theory as an etiological, thus a level I, theory (Ward et al., 2006a). In this instance, the *scope* of Abel's theory is *externally inconsistent* with current level I theories, which include an etiological role for cognitive distortions (Ward et al., 2006a).

Another *scope* issue, relates to the fact that Abel and colleagues do not directly address the etiological pathway that leads to adult-onset-offending, but rather focus on an adolescent-onset-offending pathway (Ó Ciardha et al., 2017a; Ward et al., 2006a). To illustrate, research with CSOs demonstrates that the average (self-reported) age of first contact with a child victim tends to be 32 years (Smallbone & Wortley, 2004).

Abel and colleagues also do not explain the mechanisms by which cognitive distortions come to be learned (Ward et al., 2006a). Bandura's (1977) social learning theory is said to provide the basis for sex-offending etiology, yet the fact that secrecy seems to surround the tendency of CSOs to desist from testing their beliefs with others, is somewhat inconsistent with a social learning perspective, thus *internally incoherent* (Ward et al., 2006a). In addition, the lack of in-depth information regarding the underlying mechanisms responsible for cognitive

distortions (Gannon et al., 2007a), results in a conceptual issue, raising questions regarding the *explanatory depth* of this theory (Ó Ciardha et al., 2017a).

There exists, within the theory, an ambiguity surrounding whether cognitive distortions are understood to be conscious or unconscious constructs (Ward et al., 2006a). For example, a criticism of questionnaire methodology used to investigate cognitive distortions, is that if they are unconscious (e.g., located at a structural level of cognition), it is unlikely that using methodology designed to tap into them at a product level, will prove fruitful. Furthermore, Abel et al. (1984) observed that offenders possessed a tenuous, thus, somewhat conscious awareness of the inappropriateness of their beliefs, since they shield them against anticipated condemnation by not seeking to test them with others (Ward et al., 2006a). In which case, it does not then, make sense to investigate these constructs by asking offenders, to complete a transparent, self-report questionnaire (Ward et al., 2006a). In defense of the questionnaire methodology, Ward et al. (2006a) comment that perhaps, Abel considered established offenders with entrenched beliefs would have no problem to openly admit to them (Ward et al, 2006a). Indeed, the questionnaire developed by Abel et al. (1989) is widely used within the offender treatment community, reflecting the theory's *heuristic value* (Ó Ciardha et al., 2017a).

Whichever way one looks at this area, alongside a lack of clarity as to the unconscious/conscious nature of cognitive distortions, the theory is rendered open to contradictions related to *internal coherence* (Ward et al., 2006a), with implications for the theory's *empirical adequacy*. In this regard, Neidigh and Krop (1992) cite Abel's scale as an example of a measurement that does not measure what it purports to measure (Maruna & Mann, 2006; Neidigh & Krop, 1992) due to the ambiguity surrounding the conscious vs. unconscious nature of cognitive distortions.

We also earlier noted earlier in this chapter (p. 38) Thakker et al.'s (2007) observation, that Abel's conception of cognitive distortions, can be seen to operate somewhat like defense

mechanisms (Thakker et al, 2007). This interpretation further compounds the utility of a questionnaire scale to investigate these constructs. For example, if cognitive distortions are similar to defense mechanisms, these are defined as theoretical constructs that refer to cognitive operations, which always take place on an unconscious level, and are aimed at modifying (i.e., at a process level of cognition), an individual's conscious experiencing of a thought or affect (Cramer, 2000): as with defensive exclusions (e.g., George & West, 2012). Thus, if cognitive distortions do operate like defense mechanisms, a questionnaire scale seeking to investigate uncomfortable thoughts or affect, is unlikely to bypass these defensive mechanisms.

Ultimately, the issues that exist within Abel's theory, including those addressed above (see also Ward et al., 2006a for more in-depth evaluation), call into question the *empirical* and *predictive accuracy* of Abel and colleagues' theory (Ó Ciardha et al., 2017a). Maruna and Mann (2006) also make the important point, that the designation of post-hoc excuse making as criminogenic, is "fallacious thinking. After all, outside of the criminal context, post-hoc excuse-making is widely viewed as normal, healthy and socially rewarded behavior" (Maruna & Mann, p. 155). Indeed, excuses "are an aligning action indicating to the audience that the actor is aligned with the social order even though he or she has violated it" (Felson & Ribner, 1981, p. 138; Maruna & Mann, 2006): This observation, when applied to Abel's theory, seems to be another example of lack of *external consistency*.

In closing, by recent standards, Abel's theory, albeit highly innovative at the time (Ward et al., 2006a), is not consistent with a social cognitive perspective of cognition, which emphasizes the implicit and unconscious nature of humans' beliefs (e.g., Kunda, 1999). Despite this, the contribution of Abel and colleagues to the domain of offender cognition is viewed as invaluable and has proven a good starting point for a *fertile* body of research (Ó Ciardha et al., 2017a).

The Implicit Theories Theory

Ward's (Ward, 2000; Ward & Keenan, 1999) Implicit Theories theory of cognitive distortions is classed as a schema theory (O'Ciardha et al., 2017a; Ward et al., 2006a), and views cognitive distortions from a social cognitive, and developmental perspective. As mentioned in Chapter 1 and earlier in this chapter, a social cognitive perspective emphasises the implicit and unconscious nature of humans' beliefs (Gannon et al., 2007a). In forensic domains, the idea that schemata are implicated in antisocial behaviour and psychopathology is not considered a novel concept. However, whether these constructs play an etiological role in sexual offending behaviour, is a contentious issue (Ward et al., 2006a; Williams, Watts, MacLeod, & Mathews, 1997).

The other well-known schema approach to sexual offending is the one developed by Mann and Beech (2003), however, unlike Ward (2000), Mann and Beech (2003) do not view schemata as playing a major role in offending (Ward et al., 2006a). In addition, Mann and Beech's (2003) theory of cognitive distortions is "arguably less detailed and is more of a process explanation" compared to the IT theory (O'Ciardha et al., 2017a). Whereas Mann and Beech's schema-based approach has been useful in terms of treatment interventions (e.g., McGinn & Young, 1996; Young, 1990), Ward's IT approach has, been more fruitful in terms of research (e.g., Marziano, Ward, Beech, & Pattison, 2005; Mihailides et al., 2004; O'Ciardha et al., 2017a): and thus informs the experimental paradigm developed for this thesis.

Ward has argued that thinking about cognitive distortions as particular kinds of *implicit theories* that are problematic in nature, provides a good framework for understanding their mental representation and structure (for a full overview see Ward, 2000 and Ward & Keenan, 1999). Here, the term *implicit* refers to knowledge, which (whilst guiding emotional, psychological, and behavioural responding) is "rarely articulated in a formal sense and may not be easily expressed by an individual" (Ward, 2000, p. 495). Research from the domain of

developmental psychology (e.g., ToM: see Chapter 1 (pp. 13-14) of this thesis), suggests that the young infant's understanding of the self, others, and the world, is facilitated by the development of implicit, or lay, theories (e.g., Dweck, Chiu, & Hong, 1995; Gopnik & Meltzoff, 1997; Wellman, 1990).

Most implicit theories, though modified by maturation, are believed to be acquired during early development (e.g., Dweck et al., 1995; Gopnik & Meltzoff, 1997; Wellman, 1990). Although Ward, Keenan and Hudson's (2000) and Keenan and Ward's (2000) 'theory of mind' theory of cognitive distortions, is not discussed at length in this thesis, it is acknowledged that the thinking informing their theory of mind theory of cognitive distortions, also underpins that of the implicit theories theory.

Ward (2000) likens implicit theories, in some ways, to scientific theories (Ward, 2000). For example, both contain assumptions that describe human nature in terms of core psychological processes and structures, which are used to explain human behaviours, in a variety of situational contexts (Ward, 2000). Implicit theories guide the processing of information (i.e., evidence) pertaining to the falsity or truth of the theory, and are employed to infer the current, and future mental states and behaviour of others (Ward, 2000). Information of an ambiguous nature, that does not match the basic assumptions and predictions of a theory, is either rejected, or can be interpreted in light of the implicit theory's core assumptions (Ward, 2000).

Where Ward's concept of implicit theories differs from scientific theories, is that the 'evidence' informing these constructs, does not usually undergo a process of critical evaluation. Instead, evidence becomes interpreted in light of an individual's existing theories, based upon formative and subjective experiences, as opposed to an evaluation that is theory-neutral in nature (Ward, 2000). Consequently, if the underlying information informing implicit theories is distorted, then they can become problematic. Ward and Keenan (1999) describe individuals

who have committed sexual offences, as holding *problematic* implicit theories (hereinafter referred to as ITs), which are conceived of as networks of inter-related beliefs, and concepts, regarding the nature of their victims, the world, and themselves (Ward & Keenan, 1999). Maladaptive ITs may develop during childhood to explain atypical experiences, such as childhood sexual abuse (Ward, 2000).

An example of how problematic ITs may be implicated in sexual offending can be provided by considering how a woman's friendly behaviour towards a male, can be misinterpreted by him to mean that, rather than simply being friendly, she actually wants sex (Ward, 2000). In this way, a rapist, perhaps in line with childhood experiences of untrustworthy female caregivers, may have developed beliefs that women never say what they mean, or mean what they say. As an adult male, with sexual needs, he is likely to interpret this behavioural 'evidence' only in sexual terms that meet his needs (Ward, 2000). Consequently, this belief is likely to generate distorted statements (i.e., cognitive products) such as, "women never say what they mean" and "constantly want sex" (Ward, 2000, p. 500), suggesting an IT emphasizing women's "primitiveness" and unreliability (Ward, 2000, p. 500). The 'evidence' for the rapist inferring this mental state (e.g., sexual interest) from women, might include her wearing short skirts, or accepting a lift home after an evening out. Due to the fact that the woman is believed to be disguising her true intentions, signals indicating distress can be dismissed, and she can subsequently be blamed for the rape (Ward, 2000).

A cognitive distortion associated with CSOs, is that "children often initiate sex and know what they want" (Ward, 2000, p. 500). A common belief among CSOs is that children have legitimate sexual preferences and desires, which are revealed in their everyday behaviour and intent (Ward, 2000). For example, the child who sits on an adult's lap and, perhaps exposes their underwear in the process, is really indicating a disguised desire for sex (Ward, 2000). Thus, a cognitive distortion of this nature, will explain away any counterevidence, such as the

child's efforts to decline any sexual advance, leading the CSO to interpret this evidence only in sexual terms (Ward, 2000). In turn, a cognitive distortion like this, is likely to generate distorted statements (i.e., cognitive products) such as "..children enjoy sexual contact with adults" (Ward, 2000, p. 493). The literature appears to indicate that ITs are not generally available to conscious awareness and, therefore, to introspection (Ó Ciardha et al., 2017a).

Not all individuals who have sexually offended against women and children hold ITs (Ward et al., 2006). Additionally, some individuals' thought processes are characterized by different clusters of ITs (see Ward & Keenan, 1999; Ward, 2000; Ward et al., 2006a). These ITs may also be distinguished depending on the degree to which they focus on the offender (e.g., uncontrollability IT), the victim (e.g., victims as sexual beings, IT), or the world (e.g., dangerous world IT, Ward, 2000).

Although Ward and Keenan's (1999) IT theory evolved as a male-derived theory, research by Beech and colleagues (Beech, Parrett, Ward, & Fisher, 2009) and Gannon and colleagues (Gannon, Hoare, Rose, & Parrett, 2012) has demonstrated it is possible to code female child molesters' offence supportive cognition under four (Beech et al., 2009) and five (Gannon et al., 2012) of these male derived ITs: However, more gender specific interpretations of ITs may be required (Gannon et al., 2012).

Utilising predominantly existing psychometric scales of cognitive distortions, Ward and Keenan (1999) and Polaschek and Ward (2002) suggest five ITs for CSOs (see Table 5) and rapists (Ward & Keenan, 1999; Polaschek & Gannon, 2004; Polaschek & Ward, 2002: see also Table 5). Ward and Keenan (1999) hypothesize five ITs to be prevalent among individuals who sexually offend against children: *Children as sexual objects* (children are capable of desiring and enjoying sex and have adult sexual motivations); *nature of harm* (sexual molesting is not harmful or is beneficial); *uncontrollability* (offending behavior is outside the offender's control and there is no agency over actions). In the review in Chapter 1 of this thesis (pp. 13-

16, see also Appendix I), we contemplated how a deficit in self-agency can mean that ownership of, and thereby, responsibility for actions, is not experienced (Fonagy, 2004). It is possible that an uncontrollability IT (for both CSOs and rapists) maps onto Fonagy et al.'s (2002) conception of an individual with a deficit in self agency.

Another IT is that of *entitlement* (the offender's needs or wants supersede those of others, inferior individuals such as children, are there to meet the offenders' needs) and; a *dangerous world,* whereby, because only adults are viewed as dangerous, children are preferred sexual partners because of the safe havens they represent (Ward et al., 2006; Ward & Keenan, 1999).

The five ITs said to be held by rapists (Polaschek & Gannon, 2004; Polaschek & Ward, 2002), are as follows: *women are unknowable/dangerous* (women are inherently different to men and should be treated with suspicion, encounters with heterosexual women are necessarily adversarial); *women are sex objects* (purely there to service the sexual needs of men, women's body language (e.g., the way they dress), is more relevant to ascertaining their receptiveness compared to what they say) and; *male sex drive in uncontrollable* (beyond control of the individual offender, if women do not provide them with reasonable access, sexual urges can build up to dangerous levels); *entitlement* (as for CSOs), this IT refers to the notion that one's needs, including those which are sexual, should be met on demand. A woman who is not suitably subservient to the needs of an entitled man, may be justifiably punished by being raped.

The final IT said to be held by rapists is that of a *dangerous world* (Polaschek & Gannon, 2004; Polaschek & Ward, 2002), though similar to that held by CSOs, is not specifically focused on women or children, and involves viewing the world as a hostile and threatening place. For the rapist it is important for an individual to be constantly on guard against exploitation by other people, meaning it is important to defend oneself by retaliating, and in some cases, gaining dominion over others (Polaschek & Gannon, 2004; Polaschek & Ward,

2002; Ward et al., 2006). Unlike for CSOs, there is no place of safe-haven and "it is captured in the phrase 'it's just a dog-eat-dog world" (Ward et al., 2006, p. 125).

Table 5. Five Implicit Theories said to be held by Child Sex Offenders (Ward & Keenan, 1999) and Rapists (Polaschek & Ward, 2002)

	Five implicit theories said to be held by child sex offenders	*Five implicit theories said to be held by rapists*
1	Children as sexual objects	Women are unknowable/dangerous
2	Nature of harm	Women are sex objects
3	Uncontrollability	Male sex drive in uncontrollable
4	Entitlement	Entitlement
5	Dangerous world	Dangerous world

Ward (2000) has suggested that insecure attachment may be a factor implicated in the failure to develop adaptive implicit theories (Ward, 2000). As noted in Chapter 1, research clearly indicates a prevalence of insecure attachment styles within forensic populations. Ward et al. (2000) draw upon the concept of internal working models (IWMs), as advanced by attachment theory (e.g., Bowlby, 1988), to understand the deeper structural content underpinning problematic ITs (Ward et al., 2000). Furthermore, as noted in Chapter 1 (p. 24)

Ward et al., 1996) have stressed the importance of assessing attachment style of offenders who sexually offend, since treatment goals are likely to vary as a function of this factor.

Towards the end of Chapter 1 (pp. 27-30), we considered the ways in which Bowlby's (1969/1982, 1973,1980) tripartite conception (i.e., IWMs, defensive exclusions, attachment style), of attachment can be mapped onto a social cognitive perspective (i.e., conceptualized in terms of structural, process and product levels) of cognition (see Table 3, Chapter 1, p. 30).

Allowing for the theoretical differences between attachment theory and IT theory, duly noted in the introduction to this thesis, namely, that the former is associated with the way individuals resolve issues of relationship insecurity and affect regulation (Bowlby, 1969/1982, 1973, 1980), and: the latter implicit or folk explanations of the different aspects of the self, the world and other people, especially as they relate to threats and challenges (e.g., Ward, 2000); if we accept that attachment bonding creates a sort of master template, underpinned by IWMs, which inform the developmental integration of other, relationship-based behavioural systems (e.g., Hinde & Stevenson-Hinde, 1991; George & West, 2012); influencing sexual attitudes, how we view the 'sexual self', and being implicated in how we negotiate sexual encounters (e.g., Mikulincer & Shaver, 2007), then; as previously argued, it is highly possible that Ward's (2000) notion of ITs, which are also said to develop during early development, are underpinned by the same IWMs as attachment style; ergo, they are one and the same.

Table 6 shows how Ward's (Ward, 2000; Ward & Keenan, 1999) conception of problematic (e.g., a dangerous world) ITs underpinned, at the structural level by (negative) IWM content, can also be integrated into the mapping model advanced in Chapter 1.

Table 6. Mapping Ward's Conception of Problematic (e.g., a dangerous world) ITs onto Bowlby's Tripartite Model of Attachment and a Social Cognitive Perspective of Cognition

Level of cognition	*Insecure Attachment*	*Dangerous World implicit theory*
Structural	Negative emotional IWM content as a consequence of a less than secure attachment experience: carer/s experienced as abusive, neglectful, threatening. For example, images of others with frightening and angry faces predominate and are encoded within non-verbal cognition.	Negative emotional IWM informed by frightening and threatening early developmental experiences (as for insecure attachment), are encoded within non-verbal modes of cognition, and operating at an unconscious level of information processing. For example, adults are dangerous.
Process	Rigid defensive exclusions which, whilst protecting organism from experiencing dysregulation limit/prevent the potential for negative IWM content to be updated and modified.	Rigid defensive exclusions as for insecure attachment, which impede the re-categorization of old memories and restrict capacity to create new meanings. May also mediate responding/be responsible for fluctuations noted when investigating forensic cognition.
Product	Negative verbal statements and explicitly observable behavior which is maladaptive - resulting in more negative outcomes for the individual, compared to secure attachment.	Negative verbal statements such as the world is a very dangerous and threatening place: adults viewed as dangerous; consequently, resulting in offending behavior, such as seeking out children as preferred sexual partners.

Evaluation of Ward's Implicit Theories Theory. The ability of this theory to articulate an explicitly aetiological role for cognitive distortions (Ó Ciardha et al., 2017a), means that it "fills the glaring gap in the links between level I and level II theories" (Ward et al., 2006a, p. 125), contributing to the theory's *external consistency*. By bringing together several disparate areas of research and theory, the IT theory also evidences strong *unifying power,* and offers the potential for being high in *explanatory depth* (Ó Ciardha & Ward, 2013; Ward et al., 2006a). New approaches to intervention and research have been promoted by the theory, particularly as a result of the different relationships between sex offender types, and cognitive distortion types that are suggested: also making this theory strong in *fertility* and *heuristic* value (Ó Ciardha & Ward, 2013).

Notwithstanding, by importing a key concept from the developmental literature on ToM to explain the development of problematic ITs, namely that children develop implicit theories by functioning somewhat like scientists (e.g., by forming hypotheses, testing, and discarding those that fail to predict behavior), raises inconsistencies related to *internal coherence*. For example, implicit theories, that underpin a ToM, are thought to transform throughout the lifespan as children's understandings of people's mental states progress, and become updated and/or modified (Ward et al., 2006a). Scientists undergo training, whereby they are taught to develop those skills necessary for reflective objectivity, in so doing, to avoid making cognitive errors, such as confirmation bias (e.g., Snyder & Cantor, 1979).

However, there is a lack of evidence to suggest that sex-offenders engage in any form of reflective thought (Ward et al., 2006a). In fact, schema theories in the domain of psychopathology, posit that established schemata automatically bias, and thus skew incoming information -particularly in ambiguous situations-, at a pre-aware level of cognitive processing (Todorov & Bargh, 2002; Ward et al., 2006a). Furthermore, as we noted in chapter one of this thesis, a key characteristic of men in the general and forensic populations, who (sexually)

aggress against women and children, is lack of empathy (e.g., Ward et al., 2006), which in itself, is underpinned by a ToM deficit (e.g., Fonagy, 2004; Knox, 2011): a deficit in these cognitive skills is linked to an inability to engage in reflective thought (e.g., Knox, 2011). Consequently, this is a potential area of *external consistency* weakness in the theory.

It has been suggested that the *explanatory depth* of the implicit theories theory, would be strengthened by elaborating upon the discussion as to how implicit theories are influenced by an offender's goals and affect (Ward et al., 2006a). In keeping with the criticism levelled against Abel and colleagues' theory (Abel et al., 1984; Abel et al., 1989; Abel et al.,1987), Ward's theory does not explain the mechanisms by which ITs are able to cause sexual offending, particularly in adult-onset offenders (Ward et al., 2006a). Relatedly, it is not explained how ITs, particularly those that are not sexual in nature, and largely developed in childhood, are translated to the sexual domain as offenders become sexually active (Ward et al., 2006a). It is also not made clear, how ITs, developed at puberty, appear to lie dormant and cause offending later in life (Ward et al., 2006a).

Explanatory depth, external consistency and *internal coherence* may also be enhanced by a stronger focus on how attachment style, underpinned by IWMs (e.g, Bowlby, 1988), may be implicated in the development and maintenance of specific ITs (e.g., Table 6). If Ward et al. (1996) have identified the importance of assessing attachment style of sexual offenders because treatment goals are likely to vary as a function of this factor (Ward et al., 1996), then: it is also likely that responses of individuals in research studies may also vary as a function of their attachment style (e.g., Fraley & Brumbaugh, 2007). This may improve support for the empirical adequacy of the implicit theories theory, currently viewed as being mixed (e.g., Blake & Gannon, 2010; Keown, Gannon, & Ward, 2008; Mihailides et al., 2004; Ó Ciardha et al., 2017a; Ó Ciardha & Ward, 2013).

The Judgment Model of Cognitive Distortions

Informed by the IT theory, and drawing from the literature on rationality, Ward and colleagues (Ward, Gannon, & Keown, 2006; Ward, Keown, & Gannon, 2007), developed the Judgment Model of Cognitive Distortions (Ward et al., 2006b; Ward et al., 2007): Hereinafter referred to as the JMCD. The literature on rationality argues that as humans, we make three types of judgments encompassing varying levels of consciousness (Baron, 2000; Gannon et al., 2007b; Ward et al., 2006b), namely: *beliefs* (i.e., statements an individual purports to be true concerning the nature of the self and the world, Nisbett & Ross, 1980); *values* (i.e., attributes or experiences which an individual is motivated by and considers worthwhile), and; *actions* (Baron, 2000; Hammond, 1996; Rescher, 1992, 1993; Ward et al., 2006b). By applying a judgment-based framework to the study of offenders' cognition, the JMCD attempts to reveal the ways in which beliefs and their associated values, may serve as the foundation for sexual offending actions (see Baron, 2000 and Hammond, 1996 for a fuller discussion of these topics). Within this model, cognitive distortions are viewed as emerging from *thematic networks*, which in turn, arise out of an interaction of the individual's *belief-based judgements,* their *value-based judgements,* and their *action-based judgments,* in the following manner:

Beliefs. The thinking surrounding this category incorporates most of that which informs the IT theory and Abel and colleagues theory of cognitive distortions: wherein cognitive distortions are viewed as a product of an offender's belief system (Ó Ciardha et al., 2017a; Ó Ciardha & Ward, 2013; Ward et al., 2006b). The JMCD perspective argues that not all sexual abusers will hold core false beliefs, however, those that do not may articulate what are understood to be cognitive distortions, when these products are in-fact, based on more temporary faulty reasoning (Ó Ciardha et al., 2017a).

Values. Experiences or attributes of particular worth to an individual and with the potential to motivate a person's actions, constitute the understanding of values in the JMCD:

these value judgments are also directly related to day-to-day goals pertinent to the individual (Ward et al., 2006b). The JMCD suggests that cognitive distortions and offending behavior may emerge from the values an offender considers to be important and worthy (Ward et al., 2006b). Ward and colleagues are keen to stress that it is not so much the case that an offender values the wrong things, rather, that in order to achieve these values, they make bad decisions or place too much importance on particular values at the expense of others (Ward et al., 2006b). It is also often the case that sexual offenders do not possess the capabilities or social supports necessary to obtain desired values in a manner which is socially acceptable (Ward et al., 2006b). Consequently, in order to pursue the desired values, this can result in the creation of maladaptive judgments and socially destructive ways, such as sexual offending, to achieve these goals (Ward et al., 2006b). These judgements are strongly related to Ward and Stewart's (e.g., Ward & Stewart, 2003) Good Lives Model of treatment, wherein the identification of *goods* or values considered to be of importance to an offender, is central, together with discovering how these goods may be realized in a manner which is non-offending (Ward & Stewart, 2003).

Actions. Although judgements relating to actions receive very little focus in research and theory development, Ward et al. (2006b) argue that they represent "important strands in individuals' discourse about their sexual offending" (Ward et al., 2006b, p. 330). Furthermore, a consideration of actions may help to explain some sexual offenders' offense-endorsing discourse, in the absence of core false beliefs (Ward et al., 2006b). For example, Ward et al. (2006b) point out that an offender may try to change the ways that his or her actions and rationality are viewed by employing minimization and denial (see also Maruna & Mann, 2006): perhaps an offender will deny that he or she acted in the stated way, or that their actions were of a completely different type. For example, in the case of a rapist, that he took part in a

mutually agreed sexual encounter, as opposed to having committed an offence by raping a female victim (Ward et al., 2006b).

If this sort of post-offense reasoning is done regularly enough, it is thought that this may eventually affect the a person's belief structures in some way so that they become changed (Ward et al., 2006b): In this regard, Chapter 1 (see p. 28) of this thesis, discussed the reciprocal, recursive, and dynamic process of cognition (Hollon & Kriss, 1984). The JMCD thus offers an explanation for the *within* individual fluctuations observed in the meaning of offense-endorsing statements (Ward et al., 2006b).

How beliefs, values, and actions interact in the JMCD. Ward et al. (2006b) explain how each aspect of the model interacts in a "dynamic and mutually influential manner in order to help people resolve certain problems posed by the environment" (Ward et al., 2006b, p. 330). For example, beliefs communicate information regarding particular states of affairs in the world which can be true (accurate) or false (misleading). When misleading, this means that people tend to make errors in their choice of goals or values and resulting actions (Ward et al., 2006b). Furthermore, by engaging in what Ward et al. (2006b) refer to as "sloppy reasoning" (p. 327), individuals may also reach temporary false conclusions, albeit in the presence of stable and appropriate beliefs regarding offending (Ward et al., 2006b).

In this way, cognitive distortions are viewed as having the potential to emerge from any of these three judgement types (Ward et al., 2006b), with the ability to influence one another, coming as they do in clusters or *thematic networks* with interrelated beliefs, values and actions, thus: all three types needing to be addressed by clinicians (Ward et al., 2006b). Therein, Ward and colleagues draw attention to the three levels of analysis contained within the JMCD: (a) micro-level, (b) meso-level, and (c) macro-level.

The micro-level focuses purely upon the individual beliefs, values or actions of the offender, since these concepts and the causal mechanisms that generate them, lend themselves

to being investigated separately: the latter needing further identification and study, Ward et al., 2006b). The meso-level hones in on the relationship between an individual's strategies for living, including their component beliefs, values and actions, together with the immediate environments within which these plans are to be realized: with a consideration of the potential obstacles or supports facing each offender in their attempts to achieve these desires and needs (Ward et al., 2006). The macro-level of the JMCD concentrates on the more expansive relationship between the offender and his or her cultural and social environment. For example, the more general social and cultural factors directly or more indirectly linked with sexual offending (Ward et al., 2006b). Ward et al. (2006b) stress how these levels add uniqueness to the JMCD, especially for the development of an integrated understanding of how these three levels knit together: Especially important when working on a case formulation: since the meso- and macro-levels are those which define the individual's psychological functioning and his environment (Ward et al., 2006b).

Thematic networks in the JMCD: beliefs, values, and actions. In the JMCD, discourse indicative of offence-supportive cognition is considered within thematic networks (TNs), which in turn map the JMCD onto the those themes identified in the IT theory (Polaschek & Ward, 2002; Ward, 2000; Ward & Keenan, 1999): and, which focus upon the false belief component of sexual offenders' cognitive distortions (Ward et al., 2006b). As discussed in section two of this chapter, research indicates the emergence of distinct themes in the offense descriptions of rapists and CSOs hypothesized to stem from false beliefs. To recap, they are: uncontrollability, dangerous world, entitlement, children as sexual beings, nature of harm, women are unknowable, and women as sex objects (Gannon & Polaschek, 2004; Polaschek & Ward, 2002; Ward, 2000; Ward & Keenan, 1999). Ward et al. (2006b) suggest that the concept of a network, by conjuring up the picture of interacting factors (i.e., beliefs, values, and actions) lends itself to a consideration of offense-endorsing statements as arising

from almost any combination within the network (Ward et al., 2006b). However, Ward et al. (2006b) are keen to emphasize that cognitive distortions, may not necessarily be the product of implicit theories (or schemas) but can stem from any number of complex associations related within the JMCD (Ward et al., 2006b), as discussed earlier in this section.

Two thematic networks common to rapists and child molesters. This sub-section provides two specific examples of false belief elements of TNs in the form of implicit core beliefs, together with their related values and associated actions. The two examples that have been chosen are common to both rapists and CSOs, and also pertinent to the focus of the experimental studies conducted for this thesis. For a more comprehensive review of the other examples of false belief elements of TNs, the reader is referred to the original text (e.g., Ward et al., 2006b).

Uncontrollability. False beliefs. As we saw in section two of this chapter, when enduring beliefs associated with this TN exist, offenders, both rapists (Polaschek & Gannon, 2004) and CSOs (Ward & Keenan, 1999) see themselves as unable to exert control over their lives and actions: with their own existence being experienced as chaotic. *Values.* The main value associated with the beliefs informing this TN concern those of autonomy, the ability to set goals, control and select desires in the service of a long-term plan (Ward et al., 2006b). In this way, the individual is able to function as an independent and autonomous person, able to regulate their own thoughts, feelings and behaviour in order to realise important goals (Ward et al., 2006b). *Actions.* Associated actions stemming from this TN are likely to be those characterized as haphazard, a deficit in the ability to regulate feelings, thoughts and behaviour (Ward et al., 2006b). Offenders with this TN will most probably justify their actions by saying that they had no choice but to commit sexual crimes, the result of strong desires, impulses or in some cases other people. On some occasions, the victim's own behaviours are cited as the

main causal factor, making the offender the real victim: For example, "She seduced me….she was just too hot…it was not my fault " (Ward et al., 2006b, p. 333).

Dangerous World. *False beliefs*. Once again, as we saw in section two of this chapter, entrenched beliefs associated with this TN are descriptive of offenders who believe that people are by nature hostile, rejecting and aggressive: leaving the offender feeling he or she is at risk from the malevolent intentions of other people (Ward et al., 2006b). The individual may decide the only option is to retreat into a safe haven of forming relationships with children (viewed as innocent and accepting, i.e., Ward & Keenan, 1999; Ward et al., 2006b), or: when hurt by others, to take the initiative by striking first or seeking revenge (Polaschek & Gannon, 2004; Ward et al., 2006b). *Values.* The main values associated with the beliefs informing this TN are those concerned with trust, safety, and justice. A main area of focus for the offender is to constantly monitor the degree of risk posted by potentially hostile environmental factors to ensure his safety (Ward et al., 2006b). This can create a trust issue wherein for CSOs, children are viewed as safe, accepting and loving (Ward et al., 2006b). *Actions.* Judgements associated with justice, tend to accompany more aggressive responses to wrongful actions or perceived threat (Ward et al., 2006b). Therein, actions associated with the rape of a woman may be justified by the offending arguing that he was inflicting a deserved punishment (Ward et al., 2006b). The value judgment in this case, being that "She deserved what she got" (Ward et al., 2006b, p. 334). Alternatively, the offender may justify his actions to cultivate intimacy, in the form of grooming behaviour, with children by an appeal to the loving, accepting nature inherent in children (Ward et al., 2006b).

Evaluation of the JMCD. The JMCD demonstrates strong unifying power together with external consistency (Gannon et al., 2007b; Ó Ciardha et al., 2017a; O'Ciardha & Ward, 2013) in incorporating most of the main features of the IT theory for both CSOs (Ward, 2000; Ward & Keenan, 1999) and rapists (Polaschek & Gannon, 2004), together with those of Mann

and Beech's (2003) schema-based model (Mann & Beech, 2003): mentioned at the beginning of section two of this chapter (Ó Ciardha & Ward, 2013). The JMCD also manages to unify "the philosophical rationality literature with cognitive distortion literature" (Gannon et al., 2007b, p.407). The JMCD also succeeds in complimenting the Good Lives approach to offender treatment (O'Ciardha et al., 2017a; Ó Ciardha & Ward, 2013). However, Gannon et al., (2007b) argue that when it comes to explaining how different types of offender may be associated with the different distortion mechanisms, the JMCD lacks *explanatory depth* (Gannon et al., 2007b; Ó Ciardha & Ward, 2013).

Nonetheless, further unifying power is demonstrated by the way in which the theory encapsulates the kinds of post-offense cognitions not accounted for in other theories, such as denial, minimization and justifications (Ó Ciardha et al., 2017a; Ó Ciardha & Ward, 2013). However, Ó Ciardha et al., (2017a) draw attention to the concerns raised by several authors (Dean, Mann, Milner, & Maruna, 2007; Maruna & Mann, 2006), that some of these post-offense cognitions, may not play an etiological role in offending, but are in and of themselves, normative, are acknowledged by Ward et al. (2007): meaning that the JMCD can be said to suffer from a lack of *explanatory depth* (Ó Ciardha et al., 2017a; Ó Ciardha & Ward, 2013). In other words, it is not obvious that whilst some justifications can be normative and non-problematic, others may over time, feed back into an offender's belief structures (Ó Ciardha & Ward, 2013).

Although Ward et al. (2006b) outline a number of research implications prompted by the JMCD, the results of these research streams (i.e., Keown, et al., 2008a; 2008b) were not reviewed in the context of the JMCD (Ó Ciardha & Ward, 2013). Additionally, there are, to-date, no published studies which have directly focused upon testing and examining the prediction of the JMCD, thus making it challenging to evaluate the *empirical adequacy* of the theory (Ó Ciardha & Ward, 2013). This would seem to imply that the theory suffers from a

lack of *fertility* or *heuristic value* (Ó Ciardha et al., 2017a; Ó Ciardha & Ward, 2013). On the other hand, as we saw in section one of this chapter, the IT theory of cognitive distortions which largely informs the JMCD, continues to have a sizeable impact, amassing many more citations in the research literature (Ó Ciardha et al., 2017a). Relatedly, whilst largely *internally coherent*, the JMCD nonetheless makes it difficult to generate testable hypotheses, since it accounts for both null and alternative findings (Ó Ciardha & Ward, 2013).

It would appear that that main challenge regarding validity of the JMCD is also that which faces the IT theory. For example, the JMCD, though less reliant on being able to identify offenders' distorted beliefs, is still founded upon the understanding that in a significant proportion of cases, they do exist (Ó Ciardha & Ward, 2013). However, as Ó Ciardha and colleagues point out (Ó Ciardha et al., 2017a), and as we shall see in Chapter 3, the evidence for identifiable belief structures amongst offenders: with the possible exception of the children as sexual beings IT (Mihailides, Devilly, & Ward, 2004), is very limited. Nonetheless due to the well-established notion of beliefs in the form of ITs or schema, in the wider social cognitive literature, it is likely that such structures may be a factor in sexual offending (Ó Ciardha et al., 2017a; Ó Ciardha & Ward, 2013). In summary, the JMCD, which has built upon the strengths of the IT theory is conceptually strong and offers up some clear improvements over previous theories, including the IT theory (Ó Ciardha et al., 2017a; Ó Ciardha & Ward, 2013).

The Extended Mind Theory of Cognitive Distortions

The final theory to be discussed in this chapter, is that of Ward and Casey's (2010) highly innovative and alternative (Ó Ciardha et al., 2017a) view of cognitive distortions in which they apply extended mind theory (hereinafter referred to as EMT) (e.g., Barrett, 2011; Menary, 2007) to the arena of sexual offending (Ward & Casey, 2010). An EMT perspective considers individuals' cognitive systems to extend into the "surrounding world much as a

spider's web is an integral part of a functional unit that is not bounded by the body of the spider" (Ó'Ciardha et al., 2017a, p. 216; see also, Barrett, 2011; Menary, 2007; Sterelny, 2012). The application of EMT to the consideration of cognitive distortions in sexual offenders allows researchers and therapists to consider how social networks, therapists, etc. all fit into an extended cognitive system for the offender (Ward & Casey, 2010). Additionally, and of specific interest to the methodology created for the experimental studies in this thesis, is the notion that an extension of an individual's cognitive system can also be discerned in entities outside the brain: for example, in instances when the individual assigns certain tasks to note-keeping with paper and pencil, or when using a computer to calculate (Ward & Casey, 2010). In this way, Ward and Casey (2010) draw upon Menary's (2007) proposition that there is an analogy "between the relationship between a spider and its web" (Ward & Casey, p. 52) that can be applied to connect human cognition and the brain in ways which view human cognitive systems as "hybrid creations with both internal and external components that are manipulated by the organism in the process of participating in certain cognitive tasks" (Ward & Casey, p. 52).

Ward and Casey (2010) acknowledge that the literature on EMT is "wide ranging and confusing" (p. 53) and can be approached from a number of different theoretical perspectives and disciplines (Ward & Casey, 2010). Nonetheless, Ward and Casey (2010) focus in on three EMT assumptions discussing how these might be applied to cognitive distortions in sexual offending: *human cognitive agents are physically embodied*; *human agents have soft selves* (exhibit plasticity of cognitive functioning and agency capability), and; *human agents possess hybrid cognitive systems that incorporate internal and external components* (Ward & Casey, 2010). Having liberated the skull from being the end point for cognition, this thinking then permits both researchers and therapist to contemplate the ways in which social networks, group members, therapists etc., all form part of an offender's extended cognitive system: and, how

external social and cultural contexts may impact upon distorted thinking (Ward & Casey, 2010). In addition since the individual is viewed as an embodied agent, Ward and Casey (2010) highlight how threats to the physical body (i.e., stress, substance abuse and/or illness) can be seen to impact negatively on cognition and problematic behavior (Ó'Ciardha & Ward, 2013; Ward & Casey, 2010).

With respect to treatment initiatives, Ward and Casey's (2010) approach encourages providers to consider the broader, dynamic and more systemic context of an offender's cognitive distortions and advocates that offenders need to be surrounded by a supportive ecological context during treatment and reintegration into the community (i.e., Circles of Support, Wilson & Prinzo, 2001): others who will role-model the appropriate levels of social and cognitive norms (Ward & Casey, 2010). Interestingly, this point encapsulates those factors said to contribute to the modeling and thus formation of a secure attachment style (e.g., Bowlby, 1969), as mentioned in Chapter 1 of this thesis. Furthermore, and once again related to Ward and Casey's (2010) notion of modeling, we discussed in Chapter 1 (pp. 11-15) how the organism's earliest internal learning/cognitive templates are literally shaped (i.e., modelled) by the minds of his or her earliest caregivers; a process involving the extension of two minds across space and time (Winnicot, 1971). Ward and Casey (2010) also argue that those skills which would enable an offender to function more optimally within their environments, and desist from offending, need to be taught (Ward & Casey, 2010).

Evaluation of the Extended Mind Theory of Cognitive Distortions. The theory is largely *internally coherent*, however, a clear explanation of why external factors in offending should be conceptualized as an extension of cognition is missing (Ó'Ciardha & Ward, 2013). On the other hand, it is clear that an individual's cognition has a role to play in a larger system wherein that cognition is influenced by external factors (Ó'Ciardha & Ward, 2013). That

distorted cognition is a process that can take place outside of the skull (a key tenet of the theory), is not adequately illustrated by Ward and Casey (Ó'Ciardha & Ward, 2013): Therein, Ó'Ciardha and Ward (2013) draw attention to the fact that the EMT, as a theory in itself, is not one that is universally accepted in cognition (Ó'Ciardha & Ward, 2013).

With no clear description of the mechanism through which cognition extends itself into the external world, the theory is said to lack *explanatory depth* (Ó'Ciardha et al., 2017a; Ó'Ciardha & Ward, 2013). To illustrate this, Ó'Ciardha and Ward (2013) provide the use of pornography as an example, by suggesting that the EMT might argue perusal of this "sexually salient material" (Ó'Ciardha & Ward, 2013, p. 30), when in the form of internal fantasy, would constitute cognition. In this way, Ó'Ciardha and Ward (2013) argue that to draw a "distinction between internal processes (fantasy) or external practices (pornography) regarding the cognitive nature of that exploration is arbitrary" (Ó'Ciardha & Ward, 2013, p. 30): This is just as easily conceptualized as a process that interacts with the mind, rather than as an extension of the mind (Ó'Ciardha & Ward, 2013).

Despite these observations, Ó'Ciardha and Ward (2013) point out that Ward and Casey's (2010) EMT is a good fit with the Integrated Theory of Sexual Offending (see Ward & Beech, 2006; Ward & Beech, 2008), thus has appealing *external consistency* (Ó'Ciardha & Ward, 2013). By focusing upon external influences on cognition, the EMT theory of cognitive distortions attempts to explain how cognition is extended by biological, cultural, social and environmental factors (Ó'Ciardha & Ward, 2013). *Unifying power* in the EMT is afforded by the way that this theory incorporates the literature on sexual offending (Ó'Ciardha et al., 2017a; Ó'Ciardha & Ward, 2013).

Ó'Ciardha and Ward (2013) note that the EMT, "when distilled down to its simplest form" (p. 30), is very similar to the IT based account of cognitive distortions, discussed in section three of this chapter, wherein: problematic cognition is seen as arising out of the

interaction of cognitive structures, processes and products with an individual's social context (Ó'Ciardha & Ward, 2013). The key difference being that the EMT theory of cognitive distortions emphasizes the role of the internal/external overlap by viewing cognition as extending beyond the physical brain and into the offender's environment (Ó'Ciardha & Ward, 2013). However, whereas an appealing aspect of the IT theory is its *simplicity*, Ó'Ciardha and Ward (2013) argue that this emphasis of the EMT on the role of external factors is at the expense of *simplicity* (Ó'Ciardha & Ward, 2013).

Ward and Casey (2010) acknowledge that the creation of an experimental-cognitive paradigm adequate to the job of testing the theory and generating testable hypotheses is likely to be a challenge (Ward & Casey, 2010). This in turn, thus presents issues related to *fertility* and *heuristic* value, and ultimately also the falsifiability of the EMT of cognitive distortions (Ó'Ciardha & Ward, 2013). However, Ward and Casey (2010) propose directions for treatment initiatives that complement existing approaches to offender treatment, such as the Good Lives model (Ward & Stewart, 2003) and offender management strategies such as Circles of Support (Wilson & Prinzo, 2001), demonstrating a degree of *external consistency* (Ó'Ciardha & Ward, 2013). Therein, testability of the effectiveness of initiatives informed by the EMT of cognitive distortions is achievable: for example, by using recidivism rates (Ó'Ciardha & Ward, 2013), meaning that this avenue of exploration could be said to add to the theory's potential *fertility* and *heuristic* value; although this would, in itself, be insufficient evidence for the validity of the underlying theory (Ó'Ciardha & Ward, 2013).

With its focus upon how the types of cognitive processes employed are heavily determined by context, the EMT of cognitive distortions points towards the usefulness of the evidence that can be elicited by an exploration of offender narrative (Ó'Ciardha & Ward, 2013). On the other hand, how more indirect, laboratory-based methods may be used to provide evidence is less obvious (Ó'Ciardha & Ward, 2013). Whilst stressing the contribution of

external influences, the theory encapsulates many of the schema-based strengths of cognitive distortions, thus relative to the other theories discussed in this chapter, exhibiting a broadening of scope: Notwithstanding, in order for the empirical accuracy and adequacy of the theory to be proven, rigorous testing of falsifiable hypotheses are necessary (Ó'Ciardha & Ward, 2013): which, as previously noted may prove challenging. Ultimately though, this innovative theory argue Ward and Casey (2010), has "important lessons for those of us working at the applied end of psychology filled both with the hope of engendering change and a fear of not being able to do so" (Ward & Casey, 2010, p. 58).

A working definition of the term cognitive distortion

It is evident from the theories discussed in this chapter, how the actual term *cognitive distortion* has been "plagued with conceptual clarity problems" (e.g., Gannon et al., 2007a; Maruna & Mann, 2006; Ó'Ciardha et al., 2017a). Therefore, the general consensus concerning authentic cognitive distortions is that to be considered a genuine cognitive distortion, this construct must be shown to be associated with the onset and maintenance of sexual offending (Ó Ciardha & Ward, 2013).

> *Cognitive distortions in sex offenders are specific or general beliefs/attitudes that violate commonly accepted norms of rationality, and which have been shown to be associated with the onset and maintenance of sexual offending. These beliefs may violate rationality norms in a number of ways – for example, they may be based on sources of evidence that are not considered sufficient to ground particular beliefs/attitudes (e.g., the responses of an abused child; the responses of fellow offenders; pornography use etc*: Ó Ciardha & Ward, 2013, pp. 3 -4).

This definition also encompasses those distortions that involve faulty methods of reasoning, and by virtue of the fact that this definition links cognitive distortions, to their role in facilitating

or supporting sexual offenses, can be considered a functional definition (Ó Ciardha & Ward, 2013). Thus, this is the working definition of cognitive distortions that will be employed within the remainder of this thesis.

CONCLUSION

Section one of this chapter began by outlining Ward and Hudson's (1998) three-level meta-theoretical framework (Ward & Hudson, 1998), and theory appraisal criteria adopted from Hooker (1987) and Newton-Smith (2002), within which the theories discussed in this chapter were contextualized. Section two of this chapter, looked at the work of Abel and colleagues (1984), which suggested that sexual offenders have developed cognitive distortions in order to avoid dealing with the anxiety, shame and guilt associated with their sexual offending. Although a highly innovative theory at the time of its inception, an evaluation of Abel et al.'s theory, highlighted several issues, which rendered the theory somewhat incompatible with the prevailing social cognitive perspective of forensic cognition.

One of the challenges with Abel's theory is that it is open to the risk of being interpreted in a variety of ways since it "must be drawn together from disparate sources" (Ó Ciardha et al., 2017a, p. 210). Albeit that Abel appears to view cognitive distortions in a primarily maintaining role as opposed to an aetiological role, the lack of clarity therein, as we saw in section two, together with no clear explanation or description regarding the mechanism through which cognitive distortions are created, undermines the theory somewhat. However, the contributions of Abel and colleagues to treatment and research with CSOs has been significant and has proved itself to be an invaluable starting point "for a fertile area of research" (Ó Ciardha et al., 2017a, p. 210).

Section three focused upon Ward's (2000; Ward & Keenan, 1999) IT theory of cognitive distortions: as we saw, the first of three different theories developed by Ward and

colleagues, attempting to explain offenders' cognitive distortions. The IT theory has, to-date, been one of the most influential theories of cognitive distortions (Ó Ciardha et al., 2017a). Notwithstanding, the strengths of this theory there are several weaknesses that exist, as identified in section three. For example, by neglecting to fully identify the process through which implicit theories may be malleable at first but can become more entrenched over time this lack of explanatory depth poses an issue (Ó Ciardha et al., 2017a; Ó Ciardha & Ward, 2013).

Ultimately though, the IT theory is viewed as representing an advancement over the approach provided by Abel and colleagues (1984) in that it provides an explicitly etiological role for cognitive distortions. The weaknesses that do exist, particularly with regard to its internal coherence and explanatory depth, have the potential to be addressed as more research, inspired by the implicit theories, is conducted.

Section four moved on to a discussion of Ward's second theory of cognitive distortions, that of the JMCD (Ward et al., 2006b; Ward et al., 2007). As we saw by applying a judgment-based framework to the study of offenders' cognition, cognitive distortions are viewed as emerging from *thematic networks*, which in turn, arise out of an interaction of the individual's *belief-based judgements,* their *value-based judgements,* and their *action-based judgments:* the JMCD attempts to account for cognitive distortions beyond purely surface (i.e., product level) cognitions (Ó Ciardha et al., 2017a). As noted, despite a lack of studies directly examining the predications of the JMCD, the theory is in line with the thinking informing the majority of research conducted on cognitive distortions in sexual offenders (Ó Ciardha et al., 2017a).

Although the predictive accuracy and empirical adequacy of the JMCD is less reliant than the IT theory of cognitive distortions on being able to identify distorted beliefs in offenders, it is still informed by the premise, that in the majority of cases they do exist: In this regard, as noted in section three, unequivocal evidence for identifiable belief structure in sexual

offenders is quite limited (Ó Ciardha et al., 2017a). Ultimately, the JMCD is said to be a better fit for the available data than the IT theory, with further investigations perhaps serving to reliably demonstrate the presence of these structures (Ó Ciardha et al., 2017a).

The discussion on theories of cognitive distortions culminated, with a consideration of Ward and Casey's (2010) highly innovative theory of how extended mind theory can be applied to the arena of sexual offending. Perhaps one of the main strengths of Ward and Casey's EMT theory of cognitive distortions concerns the focus on the impact of the wider system in which the offender is embedded, and how this system can reciprocally influence cognition: This approach signposts the way for effective therapeutic change to be one that looks outside of the box, taking a holistic view of an offender's life (Ó'Ciardha & Ward, 2013) with an emphasis upon cognitive functioning as being highly context dependent (Ó'Ciardha & Ward, 2013).

However, the controversial underpinnings of EMT itself may present a challenge to Ward and Casey's (2010) innovative approach being "dismissed out of hand" (Ó'Ciardha & Ward, 2013, p. 15) by those who do not endorse the EMT perspective in general. The major challenge facing the EMT of cognitive distortions, is delineating "where the bounds of cognition end" (Ó'Ciardha & Ward, 2013, p. 33), thereafter, finding or devising methodology adequate to empirically testing the cognitive processes involved (Ó'Ciardha & Ward, 2013). With section six, this chapter drew to a close by providing the working definition of the term cognitive distortion that is employed within the remainder of this work.

It is suggested that the most optimal investigative experimental methodology for examining cognitive distortions, is one that manages to triangulate evidence in support of the three cognitive facets: products, processes and structures (e.g., Langton, 2007). The next chapter takes a look at research methodologies currently used to investigate cognitive distortions in sexual offenders and considers, to what degree, this aim has been achieved.

CHAPTER THREE

__Methodologies designed to tap into sexual offenders'__

__cognitive distortions__

The primary aim of this chapter, delivered in two broad sections, is to describe and review methodologies, inspired by the theories discussed in Chapter 2, and employed by researchers to investigate cognitive distortions in sexual offenders.

INTRODUCTION

Section one of this chapter begins with a discussion focusing upon early research, which mainly employed methodologies designed to tap into forensic cognition at the product level of cognition. Section two, devotes itself to a discussion of studies employing methodologies, designed to tap into forensic cognition associated with the more indirect, process and structural levels of cognition: As with the theories reviewed in Chapter 2, the studies discussed in this chapter, mainly, though not exclusively, focus upon investigations into the cognitive distortions of CSOs. By the end of this chapter, it will become clear that there are obvious 'toolkit gaps' in current methodological approaches to the investigation of sexual offenders' cognitive distortions, two of which, the closing statements of this chapter will especially draw attention to. One very important factor concerns attachment style, the focus of Chapter 1, which: though implicated in the profiles (e.g., Cortoni & Marshall, 1998; Gal & Hoge, 1999; Keogh, 2012; Smallbone & Dadds, 1998; Ward, 2000) and treatment (e.g., Ward et al., 1996) of sexual offenders, has been overlooked as a research variable. Consequently, as in Chapters 1 and 2, it is again argued in the present chapter, that inclusion of this variable may be beneficial when investigating forensic cognition.

Secondarily, it is argued that if we accept ITs are underpinned by IWMs, which are encoded in more primitive, non-verbal modes of cognition then—we are also potentially overlooking methodologies from other domains of psychological interest, designed to more directly tap into these modes of cognition.

Methodologies employing direct or explicit cognitive tasks to tap into sexual offenders' cognitive distortions

Early investigations into sexual offenders' cognitive distortions mainly employed methodologies designed to tap into forensic cognition at the product level of cognition. As discussed in Chapter 1 (pp. 27-28), cognition can be broken down into three facets—products, processes, and structures (Hollon & Kriss, 1984). Early methodologies tended to consist of questionnaire, vignette and interview measurement tools (e.g., Feelgood, Cortoni, & Thompson, 2005; Marshall, Marshall, Sachdev, & Kruger, 2003; Stermac & Segal, 1989; Tierney & McCabe, 2001). The premise behind using this sort of methodology, being that, as we saw in Chapter 1, cognitive products provide hints (e.g., through the language used), that enable psychologists to make inferences about the content, organisation and systematic relationships of those more implicit levels of cognition (Haaga, 1997; Hollon & Kriss, 1984).

Some examples of these early measurements, many of which are still used today, include: Abel et al.'s (1989) CS scale; Bumby's (1996) MOLEST Scale; Marlow-Crowne's (1960) 33-item Social Desirability Scale (MCSDS); the Child Molester Scale (CMS: McGrath et al., 1998); the Causal Dimension Scale (Russell, 1982); the Mehrabian Emotional Empathy Scale (Mehrabian & Epstein, 1972); the Empat (McGrath et al., 1998) and the adapted Semantic Differential (Horley, 1991).

An evaluation of the methodologies employing direct or explicit cognitive

tasks. Over time, early studies such as those referenced above, using these more direct methodologies, began to evidence a trend for returning differing results, both in detecting evidence of those factors implicated in CSOs' (Marshall et al., 2003; Stermac & Segal, 1988; Tierney & McCabe, 2001) and rapists' cognitive distortions (Feelgood et al., 2005), and discerning these offending groups from one another and other comparison groups (Feelgood et al., 2005; Marshall et al., 2003; Tierney & McCabe, 2001). For example, it remains unclear why some studies using the CS, together with other measurements, have been able to demonstrate full discriminative ability (e.g., Stermac & Segal, 1989) whilst others (e.g., Tierney & McCabe, 2001) have not (Gannon & Wood, 2007). Furthermore, in studies such as that by Feelgood et al., (2005), using Bumby's (1996) MOLEST Scale, which sought to replicate Marshall et al.'s findings (2003; that CSOs misinterpret the behaviors and misperceive the motives of children with respect to sex) the authors reported that, although significantly different, on average CSO mean scores were at the lower end of the scales.

Then, as now, findings by researchers such as Feelgood et al. (2005) demonstrate that as a group, CSOs very rarely qualitatively differ from comparison groups on their responses (Gannon & Polaschek, 2006): Instead, they are simply less vehement in their disagreements (Arkowitz & Vess, 2003; Bumby, 1996; Feelgood et al., 2007; Gannon & Wood, 2007). However, Kolton et al. (2001) argue that unless offenders respond with *strongly disagree* to offence-supportive items, that all other categories of responding (e.g., disagree, unsure, agree and strongly agree) should be taken to indicate offence-supportive cognition (Kolton et al., 2001).

Nunes et al. (2018) point out, in regard to investigations focusing upon rape (e.g., Marshall et al., 2003), that it is unclear whether endorsement of questionnaire scale items necessarily indicates, or indeed requires, that respondents view rape as a

positive (or a negative) behavior (Nunes et al., 2018). Additionally, whether these types of scale measure attitudes or evaluations, is at present unclear (Nunes et al., 2018), thus throwing doubt upon the internal validity of these instruments. Moreover, as demonstrated by the Tierney and McCabe (2001) study, which focused on self-report measures used to investigate cognitive variables implicated in sexual offending behavior (i.e., deviant cognitions and victim empathy; Marshall et al., 1995), additional reasons for mixed results can include questionnaire quality, in terms of construct validity, internal validity, test, and retest reliability. For example, in the Tierney and McCabe (2001) study, the association between the CMS (McGrath et al., 1998) and Abel et al.'s, (1989) CS scale, was significant only for the non-offender community participants, thus raising questions about the construct validity of these measurements (Tierney & McCabe, 2001).

Other reasons for these mixed results, may involve demand characteristics associated with issues such as: i) different research settings (e.g., prison, clinical and laboratory) in which participants are tested, ii) whether testing is carried out in groups or individually (e.g., Tierney & McCabe, 2001), iii) whether anonymity is guaranteed (e.g., Marshall et al., 2003), and iv) whether testing takes place in the presence of a research assistant/psychologist (e.g., Stermac & Segal, 1989). A fluctuation in questionnaire item endorsement (Gannon & Wood, 2007) may be further compounded by the use of different sub-categories of sex-offender participant groups (e.g., Gannon, 2006; Gannon et al., 2007c). Feelgood et al. (2005) suggest that controlling for sub-group classification within the area of sexual offending research, is important (Feelgood et al., 2005).

For example, CSOs can be further sub-classified according to whether they are an intra-familial offender (e.g., related to the victim biologically or by marriage, Miner

& Dwyer, 1997), biological parent offender (e.g., father against his own child, Gomes et al., 2014), or an extra-familial offender (e.g., the violation of children who are not related biologically, or by marriage, Bolen, 2001). With this in mind, research indicates that intra-familial offenders generally have lower pedophilic interest compared to other offenders (Greenberg et al., 2005; Seto et al., 2015). Likewise, research also shows that men who sexually offend against older, as opposed to younger women, are generally younger, more violent and more likely to use a weapon, thus causing injury and death compared to CSOs (Browne, Hines, & Tully, 2016). Therefore, these two groups of offenders are distinct in their differences, differences likely to be reflected in response data.

However, research also indicates that sex-offenders, whether rapists or CSOs, are not a homogenous group (e.g., Ward et al., 2006a) and an approach that emphasizes classifying people who have committed sexual offences in terms of offence categories, is vacuous: providing researchers and clinicians with little inferential power (e.g., Camilleri & Quincy, 2008; Knight & Prentky, 1990.

An additional participant variable which may contribute towards a fluctuation in questionnaire item endorsement, concerns those offenders who are themselves, historical victims of sexual/abuse. Hanson and Bussière (1998) report that in file reviews of 409 sexual offenders, 75% had been victims of some form of child abuse – physical, sexual and/or neglect (Hanson & Bussière, 1998). It is argued that for an offended-against offender to be able to develop the capacity for appropriate victim empathy, they need, first and foremost, to be heard as a victim in their own right: Only then can they model this attitude towards others (Craissati, McClurg, & Browne, 2002). Furthermore, Chapter 1 of this thesis, noted that a key characteristic of men in the general and forensic populations, who (sexually) aggress against women and children,

is lack of empathy (e.g., Ward et al., 2006a). Research studies with CSOs, show that higher endorsements of offence-supportive beliefs tend to be associated with an inability to demonstrate empathy for their child sexual-abuse victims (e.g., Hayler, Pardie, & Rivera, 2002; Marshall, Hamilton, & Fernandez, 2001). However, as pointed out in Chapter 1 (p. 14) of this thesis, Ward and Durrant (2013) note that there is little evidence to demonstrate sex offenders have enduring empathy deficits (Ward & Durrant, 2013).

It is possible that offenders who have undergone their own therapy, or an offender treatment program which specifically addresses their own sexual abuse, may demonstrate a greater capacity for "appropriate victim empathy" (Craissati et al., 2002, p. 236): which may be reflected in the data collected from this group. However, this area is further complicated by the fact that, in the first instance, many survivors of sexual abuse would rather not disclose this fact (e.g., Klayman-Farber, 2004).

For example, in the Stermac and Segal (1989) study, when asked about their histories of sexual abuse, only 24% of participants provided information (Stermac & Segal, 1989). Furthermore, in the Tierney and McCabe (2001) study, and in line with previous findings (e.g., Fernandez et al., 1999; Marshall et al., 1995), CSOs obtained a lower mean score compared to other groups, towards victims of child sexual abuse (Tierney & McCabe, 2001). Research by Craissati et al. (2002) mentioned above, may offer up an explanation for findings like these, particularly in relation to those offended against offenders.

Probably one of the most often cited and major factors related to the fluctuation in questionnaire item endorsement, is impression management (Goffman, 1962) in the form of socially desirable responding (Gannon & Wood, 2007). As mentioned in Chapter 2 (p. 37), Abel observed that offenders possessed a somewhat conscious

awareness of the inappropriateness of their atypical beliefs: since they seek to shield them against anticipated condemnation, by not testing them with others who would be likely to challenge them (Abel et al., 1984; Ward et al., 2006a). In which case, it is possible, that when presented with offence related questions, offenders may engage in socially desirable responding. Socially desirable responding may be particularly relevant when, in CSO samples, offence belief endorsements are almost nonexistent (e.g., Kolton et al., 2001), as in Marshal et al.'s (2003) study.

There is a paucity of research directly investigating whether CSOs do deliberately conceal, and thus 'fake' their offence-supportive beliefs on questionnaire items (Gannon & Wood, 2007). For example, using the CMS (McGrath et al., 1998) scale referred to earlier in this chapter, McGrath et al. (1998) reported that CSOs in their study guaranteed anonymity, were found to make significantly higher endorsements of offence-supportive beliefs than CSOs completing the same measure who were seeking parole (McGrath et al., 1998).

In two other studies by Gannon (2006) and Gannon, Keown, and Polaschek (2007c), CSOs completed self-report measures of offence supportive beliefs at two time-points separated by either one week (Gannon, 2006) or an interval of between 4-6 weeks (Gannon, Keown, & Polaschek, 2007c). In Time 1 of both studies, self-report measures were completed under standard conditions. However, at Time 2, participants were either randomly assigned into the control condition (completion of questionnaire again under the same conditions as for Time 1) or, the experimental condition (wherein the same questionnaire as for Time 1 was completed whilst participants were attached to a fake polygraph).

Also referred to as a lie-detector, the polygraph is an instrument that records and measures several physiological markers including blood pressure, pulse, skin

conductivity and respiration, whilst an individual is being asked a series of questions (e.g., Rosenfeld, 1995). The utility of this measurement is that lying induces a 'stress response' in the automatic nervous system; a response largely outside of an individual's conscious control. Sensors attached to the body record physiological changes, with certain reactions being interpreted as indicative of deception (e.g., Marshall & Thomas, 2015). The premise informing the use of the polygraph is that physiological responses for deceptive answers will be differentiated from non-deceptive responses (e.g., Rosenfeld, 1995). Polygraph testing is more commonly used in the treatment and supervision of sex offenders, primarily in areas to do with risk relevant disclosures (e.g., see Gannon, Wood, Pina et al., 2014).

However, it must be noted that, despite a sizeable amount of literature and research, since its inception, evidence for the effectiveness of the polygraph remains inconclusive. For example, there are known strategies to 'beat' the polygraph (e.g., Bell, 2012). It is also suggested that, rather than detecting deception, the polygraph serves as a means to simply intimidate individuals (Marshall & Thomas, 2015). The fact that implementation of polygraph tests and the quality of information garnered from this approach, can vary according to lack of standardization (e.g., Gannon, Wood, & Pina, 2014) raises questions concerning validity of this methodology. Importantly, there are no unequivocal and specific physiological reactions, or factors associated with the act of lying, that enable liars to be reliably distinguished from truth-tellers (e.g., Iacono, 2008).

Participants in both the Gannon (2006) and the Gannon et al. (2007c) studies, were explicitly informed that if they answered dishonestly, this would be detected (e.g., because "skin conductance may be related to dishonest responses", Gannon, 2006, p. 366). For the Gannon (2006) study, 14 cognitive distortions which reflected beliefs

associated with the 'children as sexual beings' implicit theory (Ward & Keenan, 1999) were selected from the Opinions Questionnaire (Offending Behaviour Programmes Unit, OBPU, 2000). Participants responded to each item on a 5-point Likert-type scale ranging from 0 (*strongly disagree*) to 4 (*strongly agree*), with higher scores reflecting more agreement with distorted beliefs related to children (Gannon, 2006). To control for social desirability responding, a shortened 11-item version of the Minnesota Multiphasic Personality Inventory (MMPI) Lie scale (Hathaway & McKinley, 1951) was utilized. It was hypothesized that for Time 2, if CSOs were intentionally faking good, that when they believed responses were being screened by a polygraph, their responding would be more offence-supportive (Gannon, 2006).

Analysis for the Gannon (2006) study showed, that CSOs did not answer in a more offence-supportive manner in Time 2 compared to Time 1, indicating that they had not been hiding their beliefs at Time 1 (Gannon, 2006). However, in the Gannon et al. (2007c) study, the hypothesis was supported: CSOs connected to the fake polygraph did make more endorsements than at Time 1, albeit, that even then, responses did not qualitatively shift to the extent that CSOs *agreed* with offence-supportive items (Gannon et al., 2007c). In an attempt to explain these contradictory findings, it was noted that for the second study the measure of offence-supportive cognition was improved upon (e.g., Gannon & Wood, 2007), with Bumby's (1996) MOLEST scale replacing the OBPU (2000). In addition, the veracity of the fake polygraph was improved upon with a voice recorder being attached to enhance the credibility of the apparatus (Gannon et al., 2007c).

It was also noted that, unlike the second study, which mainly tested untreated

CSOs1, and extra-familial or both intra- and extra-familial offenders ($n = 9$), that: in the first study, several of the men ($n = 18$) who took part, were intra-familial offenders. In the Gannon (2006) study, extra-familial offenders numbered 14, with two thirds ($n = 11$) of these participants either having received treatment to restructure their distorted beliefs, with just under one fourth ($n = 4$), being part-way through therapy (Gannon, 2006). Of those classed as intra-familial offenders, 11 had not received any treatment, with the remaining 3 having failed to complete the program (Gannon, 2006).

Following on from the comments made earlier in this chapter regarding controlling for sub-classification of sex offender, the importance of this in the context of the above observations, relates to the fact that: compared to extra-familial, intra-familial offenders are said to hold less entrenched networks of offence supportive information (Gannon & Wood, 2007): which will likely be reflected in the data collected. Additionally, CSOs who have received treatment are likely to be less inclined to cover up their beliefs at Time 1 (Gannon & Wood, 2007). These findings once again reinforce that sex-offenders, whether CSOs, or rapists, are not a homogenous group (e.g., Ward et al., 2006a): an important consideration to be borne in mind, when conducting research into forensic cognition and interpreting data.

There is also another category of classification that appears to have been overlooked in all of the studies discussed thus far, and which may have similar implications for research contexts: that of attachment style. Omission of this classification category, is perhaps all the more surprising when we, once again, consider that Ward et al. (1996) have stressed the importance of assessing attachment style of individuals who sexually offend, since treatment goals are likely to vary as a function

1 In the Gannon et al. (2007c) study 83%, $n=34$, had not received treatment compared to 7%, $n=3$, who had received partial treatment, and 10%, $n=4$, who had undergone full treatment.

of this factor. Moreover, as discussed in Chapter 2 (p. 48), Ward et al. (2000), draw upon the concept of internal working models (IWMs), as advanced by attachment theory (e.g., Bowlby,1988), to understand the content underpinning problematic ITs (Ward et al., 2000). Hence, the link between cognitive distortions and attachment style has been emphasized. Consequently, in this thesis, it is suggested that from a research perspective, controlling for attachment style, with an understanding of the ways in which defensive exclusions operate within different attachment styles, is also highly important: since this may have a bearing upon the mixed results often obtained from investigations into forensic cognition.

In Chapter 1 (pp. 25-27), we saw how different defensive exclusions are associated with different attachment styles (George & West, 2012. It would be useful to have an understanding of this attachment/defensive exclusion link to investigate whether attachment style interacts in meaningful ways with a participant's tendency towards impression management strategies, or whether a specific attachment style is responsible for fluctuations in questionnaire item endorsement. For example, Fraley and Brumbaugh (2007) employed an emotionally evocative recording, in an effort to investigate implicit, and potentially threatening, negative attachment related memories of highly avoidant (dismissing) attached individuals (Fraley & Brumbaugh, 2007). The authors concluded the failure of participants to recall information, was due to the triggering of defensive exclusions at the encoding stage of information processing (see Fraley & Brumbaugh, 2007).

Furthermore, and perhaps with particular reference to the Gannon (2006) and Gannon et al. (2007c) studies discussed above, research indicates an association between insecure attachment classifications and physiological responding on a whole range of physiological measurement methodologies (for comprehensive overview, see

Gander & Buccheim, 2015). For example, during experiments involving attachment-related stimuli, findings indicated that, compared to insecure attachment classifications, secure attachment responses were associated with less cortisol increase, lower skin conductance and more flexible prefrontal mechanisms: in other words, less physiological reactivity to stressful situations (Gander & Buccheim, 2015).

This section has looked at a selection of studies which have mainly employed methodologies designed to tap into forensic cognition at the product (i.e., explicit) level of cognition. The next section considers a number of studies employing methodologies, designed to tap into forensic cognition associated with the more indirect, process and structural levels of cognition.

Methodologies employing indirect or implicit cognitive tasks to tap into sexual offenders' cognitive distortions

Methodologies employing implicit measures, aim to capture automatic associations held by an individual, even if they do not not explicitly endorse this association (Gray & Snowden, 2009). Thus it is, that these methodologies, are thought to be able to "bring us information about sex offenders that explicit measures cannot" (Gray & Snowden, 2009, p. 105). In this section, we take a look at a selection of studies employing response latency methodologies and memory recall paradigms.

Response latency methodologies. Some studies using latency response methodologies have demonstrated support (e.g., Gray, Brown, MacCulloch, Smith, & Snowden, 2005; Mihailides et al., 2004) for the existence of a stronger implicit association indicative of cognitive distortions, in sexual offenders compared to non-sexual offenders. On the other hand, researchers such as Keown, Gannon, and Ward

(2008), Blake and Gannon, (2010) and Gannon et al. (2006) have, however, failed to report such conclusive findings.

Implicit Association Tests (IATs). Using implicit association tests (IATs, see Greenwald, McGhee, & Schwartz, 1998), Mihailides and colleagues (2004) investigated three ITs associated with CSOs (Children as Sexual Beings, Uncontrollability, and Entitlement, Mihailides et al., 2004). Acknowledging the problems associated with explicit reports of attitudes, the IAT, originally developed for use in non-forensic domains, was designed to measure attitudes in general, and more specifically, prejudices toward groups (Greenwald et al., 1998). With the use of a computer screen and keyboard, this task assesses attitudes by asking individuals to quickly categorize stimulus response words using two response keys. Greenwald et al. (1998) suggested that the implicit associations individuals develop between social targets (e.g., child or animal) and social attributes (e.g., approachable/not-approachable), can be measured, using a latency response time paradigm (Greenwald et al., 1998; Mihailides et al., 2004). The premise of this paradigm is that the strength of an individual's associations will affect the speed with which they respond to social stimuli (Mihailides et al., 2004).

For example, response speed for associated social knowledge will be faster compared with less associated social-knowledge. Therein, the difference in response time between associated, versus less associated knowledge is referred to as the Implicit Association Test Effect (IAT Effect). Adapting the IAT methodology to investigate CSOs holding, for example, an uncontrollability of sexuality IT, would mean that these individuals would take less time when asked to classify an uncontrollability of sexuality IT target word, such as "orgasm" with semantically congruent attributes that match their implicit beliefs about an uncontrollability of sexuality IT (e.g., "beyond my

control"). When asked to pair a semantically opposed and incongruent implicit association, such as "in my control" (the incongruent condition) they would take longer.

In the Mihailides et al. (2004) study, for each of the three ITs under investigation—the hypotheses were that: (1A) in the congruent conditions, CSOs would demonstrate a reduced latency response time compared to incongruent conditions, and; (1B) compared to nonsexual offenders, the IAT effect would be larger in CSOs.

Results demonstrated that CSOs (F (1,24) = 34.69, p < .001) had significantly larger IAT effects compared to offender and non-offender controls for the children as sexual beings IT. For the uncontrollability of sexuality IT, compared to non-offender controls, CSOs also had significantly larger IAT effects (F (1,24) = 34.69, p < .001). For the sexual entitlement bias IT, CSOs demonstrated a significantly larger IAT effect (F (1,24) = 46.45, p < .001), however, only when compared with the non-offending control group (Mihailides et al., 2004). At the time of this study, the authors claimed that their results provided the first evidence for the existence of a stronger implicit association in sexual offenders compared to non-sexual offenders for each of the ITs investigated (Mihailides et al., 2004).

Gray, Brown, MacCulloch, Smith, and Snowden (2005) also used a version of the IAT (the *child-sex association* IAT: CSA-IAT) designed to measure associations between sex and children (Gray et al., 2005). Significant (p < .01) results were found when discriminating a group of (N = 18) pedophilic offenders from a non-pedophilic offender control group (N = 60): with offence profiles including violence and sexual assaults against adults, Gray et al., 2005). Therein, pedophiles were shown to have an association between children and sex, whilst, non-pedophilic offenders had an association between adults and sex (Gray et al., 2005). The authors claimed the results

supported the identification of a core cognitive abnormality that may underlie some pedophilic deviant sexual behavior (Gray et al., 2005).

Lexical Decision Task (LDT) Methodology. Keown et al. (2008) investigated whether individuals who have committed sexual offences against children ($N = 32$) held more offense-supportive beliefs related to Ward and Keenan's (1999) five ITs, when compared to controls (offender controls $N = 37$ and community-based controls $N = 31$). Keown and colleagues employed their own variation of a Lexical Decision Task (LDT: e.g., Kamphuis, Ruiter, Janssen, & Spiering, 2005). The LDT measures how quickly individuals classify stimuli as being words or non-words. The idea is that when an individual has a strong mental representation of a group of words and/or a mental representation of a concept (semantic association) that reaction times will be faster (Blake & Gannon, 2010).

In the Keown et al. (2008) paradigm, 45 incomplete word stems (e.g., 'Having sex with children won't do them any') were created. For each word stem, a choice of three letter strings (e.g., 'HARM' - offence supportive, 'GOOD' - non-offence supportive, and 'KNID', non-word) were assigned (Keown et al., 2008). Each of Ward and Keenan's five IT categories were evenly (i.e., nine sentences each) represented (Keown et al., 2008). Therein, offenders holding the IT *Nature of Harm* (e.g., that sexual molesting is not harmful, or is beneficial for children, Ward & Keenan, 1999), would be expected to complete the exemplar word stem above, in an offence-supportive manner, and to have faster response times compared to controls. Contrary to predictions, individuals who had committed sexual offences against children did not show any difference in response times (Keown et al., 2008). However, they did demonstrate accelerated recognition for word stems supporting external locus of control (e.g., an Uncontrollability IT, Ward & Keenan, 1999).

Investigating the five ITs (Ward & Keenan, 1999) said to be held by rapists, Blake and Gannon (2010) designed an LDT as an implicit measurement tool wherein participants were primed with unfinished sentences, designed to tap into each of the ITs: Women are unknowable, Women as sex objects, Male sex drive is uncontrollable, Entitlement and Dangerous world (Ward & Keenan, 1999). Unfinished sentences (e.g., for the IT of Women as sex objects) – "A woman should dress" - were presented on a computer screen and then participants were asked to judge whether the target words that followed were words or non-words. Target words were taken from three groups, for example, for the IT of Women as sex objects: (a) rape-supportive – "attractively"; (b) non-rape supportive – "comfortably", and; (3) non-words – "sulstantial". Explicit measurements were also employed (i.e, Rape Proclivity measure: Bohner et al., 1998).

One of the hypotheses was that men who scored high on the Rape Proclivity measure would demonstrate faster reaction times to rape-supportive target words (Blake & Gannon, 2010). This hypothesis was not supported by any significant correlations (Blake & Gannon, 2010). Blake and Gannon (2010) suggested that maybe some of the sentences used in their study, were too subtle or ambiguous (Blake & Gannon, 2010).

Memory-recall paradigms. Memory recall has often been used in psychological research to provide insight into individuals' belief systems/schemata (e.g., Markus, 1977). As discussed in Chapter 1 (p. 29), when faced with ambiguous stimuli and situations, we rely on pre-existing, heuristic information stored in schemata, to make sense of and impose meaning, upon ambiguity (e.g., Hollon & Kriss, 1984; Tversky & Kahneman, 1974). In this way, memory is reconstructive (e.g., Neisser, 1981; Schacter, 2000). For example, in memory recall experiments, when ambiguous elements are

introduced, participants have been shown to deal with ambiguity by filling in memory gaps with pre-existing information stored in schemata (e.g., Bartlett, 1932).

Against this background of knowledge, Gannon, Wright, Beech, and Williams (2006) designed a memory recall paradigm to test the cognitive distortions of CSOs. A factually informed vignette describing an incidence of child molestation, within which were planted 10 ambiguous descriptions, was created. Each of the ambiguities lent themselves to being interpreted with distorted cognition, tapping into the IT most likely associated with CSOs— 'children as sexual beings' IT (Gannon, Wright, Beech, & Williams, 2006; Ward & Keenan, 1999). For example, "Rupert was in the bathroom getting undressed for a shower when he saw the door slowly open. It was his stepdaughter Sophie" (Gannon et al., 2006, p. 10).

Gannon et al. (2006) hypothesised that if CSO information processing is driven (e.g., biased) by cognitive distortions, then subsequent free recall of the vignette, would result in a use of this knowledge to disambiguate and cognitively distort each description (Gannon et al., 2006). In addition, if CSO distorted beliefs do provide a causal explanation for child sexual abuse, then CSOs ($N = 28$: intra-familial both biological and non-biological) should be clearly distinguished from offender controls ($N = 20$: inmate controls with no known convictions for sexual assault).

Five CSOs and two of the inmate controls, with learning difficulties, had the vignette read to them and their recall was verbally recounted to the researcher: As mentioned in Chapter 1 (p. 11), learning difficulties are particularly prevalent amongst offending populations (e.g., Loucks, 2007). After the vignette, participants answered four neutral questions about the vignette (e.g., "if you had to guess, do you think that the writer of this passage was male or female?" Gannon et al, 2006, p. 10), followed by

a 40-minute interval consisting of unrelated tasks, after which participants were given unlimited time to recall as much as they could about the vignette.

Results showed that both participant groups demonstrated a number of recall account distortions and also added extraneous elements to the vignette narratives, indicating that they were filling in memory gaps, in line with the constructive (e.g., Bartlett, 1932; Neisser, 1981) perspective of memory (Gannon et al., 2006). However, in general, CSOs displayed low levels of cognitively distorted recall and did not, in keeping with comparison inmate controls, cognitively distort the descriptions designed to tap into Ward's ITs (Gannon et al., 2006).

Gannon et al. (2006) say these findings suggest that, despite assumptions made in much of the literature, that CSOs in this study did not introduce significantly more cognitive distortions into their recall accounts indicating that, at least for this sample, cognitive distortions do not represent deviant implicit theories used to interpret offence relevant situations (Gannon et al., 2006). Partly in an effort to address the possibility, that a lack of priming was responsible for the null results of the Gannon et al. (2006) study, Keown and Gannon (2008) conducted another cognitive experimental study, drawing upon a similar premise to the earlier one.

There were three experimental stages in this study: priming, encoding and recognition (Keown & Gannon, 2008). For the priming part of this study, participants $N = 27$ CSOs ($n = 16$ extra-familial (two of whom had received CBT), $n = 11$ intra-familial, and $n = 37$ offender controls), were exposed to pictures of semi-clothed children (the priming condition) or clothed, mature adults (the control condition). Research shows that CSOs demonstrate longer viewing times for clothed or unclothed images of children, compared to control groups (e.g., Abel et al., 2004). Therein, viewing time is considered to be a reliable measure of sexual interest (e.g., Abel et al.,

1998, 2004; Gress, 2005). Research reports that two of the strongest predictors of sexual recidivism identified amongst CSOs, are sexual arousal to children and psychopathy (e.g., Seto, 2008; Seto & Barbaree, 1999). With a meta-analysis of recidivism studies conducted by Hanson and Morton-Bourgon (2005) finding the strongest predictors of sexual recidivism for both adolescent and adult sexual offenders, to be deviant sexual interests (*d.* = .30) and   anti-social orientation (*d.* = .23) (including psychopathy, Hanson & Morton-Bourgon, 2005).

For the priming condition of the Keown and Gannon (2008) study, participants were simply asked to judge whether the age of the person in the picture was over, or under the age of 16. For the control condition, participants were asked to judge whether people in the photos were above or under the age of 75 years (Keown & Gannon, 2008).

For the encoding part of this study, participants then read a set of ambiguous sentences (the target stimuli) that described children's actions and lent themselves to being interpreted in a sexualized manner (Keown & Gannon, 2008). For example, "The coach told 10-year old Jo to stop teasing him" (Keown & Gannon, 2008, p. 150). Ten control sentences, created to monitor negative responding biases (i.e., Copello & Tata, 1990), that could be interpreted in a threatening or non-threatening manner, were also presented: For example, "The doctor frowned as he measured little Sarah's growth" (Keown & Gannon, 2008, pp. 150/152). Ten filler sentences that were unambiguous were also added to conceal experiment aims and monitor participant responding: For example, "The two old friends played pool until closing time" (Keown & Gannon, 2008, p. 151). The recognition part of the study entailed participants having to complete a surprise recognition task wherein half the sentences were re-presented in an unambiguously sexual manner, with the other half in an unambiguously non-sexual form (Keown & Gannon, 2008).

There were three main hypotheses in this study: (1) that during the priming phase, primed CSOs would demonstrate longer viewing times for children compared to OCs or control CSOs; (2) primed CSOs, during the recognition phase would remember more sexual versus non-sexual recognition sentences; and (3), that biased recall for sexual recognition by primed CSOs, would be accompanied by faster response times, compared to other groups (Keown & Gannon, 2008). For hypothesis one, a significant difference $t(30) = 2.44$, $p = 0.021$, was reported with CSOs, as predicted, viewing child pictures longer compared to OCs. The second hypothesis was not supported $F(1,60) = 2.53$, $p = 0.117$, indicating that there appeared not to be a difference in recognition of ambiguously sexual and non-sexual sentences between participants. For the final hypothesis, results demonstrated that primed CSOs were no quicker than other participant groups to respond to sexual sentences relative to non-sexual sentences, $F(1,60) = 0.49$, $p = 0.48$.

When discussing these results, the authors suggest that the significant finding for hypothesis one, suggests that CSOs' beliefs linking children and sex were presumably activated (Keown & Gannon, 2008). However, the finding that CSOs did not interpret ambiguously sexual sentences in line with beliefs that children are sexual beings was unexpected. Compared to controls they didn't show greater recognition for sexualised sentences, in line with the results obtained by Gannon et al. (2006; Keown & Gannon, 2008). Possible reasons posited for this result included the notion that CSOs behaved defensively in claiming not to recall familiar looking sexualized sentences (Keown & Gannon, 2008).

Other limitations put forward, were that the task of sentence reading was too far removed from real-life situations to be able to tap into information processing biases (Keown & Gannon, 2008). Similarly, because the images of children were computer-

generated, they may have looked less lifelike than those of the adult photographs (Keown & Gannon, 2008). The authors suggested that researchers should refine their experimental techniques and try to develop more sophisticated ways of applying them. As for the Gannon et al. (2006) study, and once again contrary to expectations, neither primed or control CSOs demonstrated a memory bias for sexualized sentences, thereby, indicating that they did not interpret the original sentences in line with offence-supportive beliefs (Keown & Gannon, 2008).

An evaluation of methodologies employing more indirect or implicit cognitive task. From the studies discussed in this section, it would appear, that like those in section one, despite using more indirect methodologies, these studies have also returned conflicting results. Thus, it would seem that, as of yet, one of the ultimate goals for forensic research psychologists, mentioned at the end of Chapter 2, that of being able to triangulate evidence in support of the three cognitive facets: products, processes and structures (Langton, 2007), has not been mastered.

In this section, we have seen how some studies using latency response methodologies have demonstrated support (e.g., Gray et al., 2005; Mihailides et al., 2004) for the existence of a stronger implicit association indicative of cognitive distortions, in sexual offenders compared to non-sexual offenders. On the other hand, researchers such as Keown and Gannon (2008), Blake and Gannon, (2010) and Gannon et al. (2006) have, however, failed to report such conclusive findings. Even the authors of those studies (e.g., Gray et al., 2005; Mihailides et al., 2004) reporting significant findings using IAT methodology, urge caution "when abstracting causation for behavior" (Mihailides et al., 2004, p. 349) and restraint when interpreting findings as

being indicative of cognitive distortions (Gray et al., 2005), saying other reasons may underlie these associations (Gray et al., 2005).

Furthermore, demand characteristics and other variables such as sub-group classification and IQ level (e.g., Gannon et al., 2006) of sexual offender participants, unless controlled for, will have an effect on results. Of course, issues related to impression management (Goffman, 1959) in the form of socially desirable responding (Gannon & Wood, 2007), though said to be less than with explicit measurement tools (e.g., Fazio & Olson, 2003): also appear not to have been eliminated with these more indirect latency response methodologies.

Additionally, whether offender participants have undergone any sort of treatment program (e.g., Gannon, 2006) in relation to their offending behavior, therein, what stage (e.g., beginning, middle or end) an offender is at in the process, is also likely to have an impact upon results. In this regard, participants in the Gray et al. (2005) study (see p. 82 of this chapter), were recruited from the only prison in the UK (i.e., Grendon) run entirely as a democratic therapeutic community (e.g., Harrison, 2011; Wilson & McCabe, 2002). It may be that participants were at a stage of treatment wherein they were no longer in denial of their offences, thus felt no need to defensively distance themselves from the stigma attached to being a sexual offender (e.g., Hudson, 2005) and their associated beliefs. In other words, this may have accounted for the significant findings in this study.

Similarly, in the Gannon et al. (2006) study, employing a memory recall paradigm, it may be that, as suggested by Gannon et al. (2006), the unexpected findings of their investigation were down to the fact that the ITs of the offenders in this study were weak or inaccessible (Gannon et al., 2006). In this case, ten of the CSOs had completed a CBT program aimed at restructuring their distorted beliefs with another

two having part-completed the program. Perhaps, being at the end of a (successful) treatment program would have resulted in weaker ITs for these participants. On the other hand, for the sixteen untreated CSOs in this study, inaccessible ITs due to rigid defense mechanisms, could equally have contributed to these unexpected findings. Thus, as with the Gannon (2006) and Gannon et al. (2007c) studies discussed in section one of this chapter (pp. 75-78), a knowledge not only of participant treatment status but also stage of treatment, may be important to consider.

It is also likely that the same criticisms (e.g., Blanton et al., 2009) from the domain of social psychology regarding the predictive utility of the IAT, are applicable to forensic domains. Blanton et al. (2009) reanalyzed data from two influential studies by McConnel and Leibold (2001) and Ziegert and Hanges (2005), that had used the IAT to explore the links between implicit bias and discriminatory behavior related to racial prejudice/discrimination (Blanton et al., 2009). Each study had reported significant findings in support of its hypotheses, results which had been subsequently invoked to support strong claims regarding the predictive validity (Blanton et al., 2009) of the IAT: extending beyond the racist climates usually studied (e.g., McConnel & Leibold, 2001).

In this regard, the introduction to Gray et al.'s (2005) study, discussed in this section, cites the findings of the McConnel and Leibold (2001) study in support of their use of IAT methodology (see Gray et al., 2005, p. 304). In this case, the primary concern of Blanton et al. (2009) focused on the way that the results from some studies are used to make strong claims in applied settings, including courtrooms (Blanton et al., 2009, p. 580). It is argued that their criticisms and observations, also call into question the validity and use of this measurement tool within forensic domains.

A detailed reanalysis of these two key studies (i.e., McConnel & Leibold, 2001; Ziegert & Hanges, 2005) by Blanton et al. (2009) failed to replicate the initial findings and find a robust association between IAT scores and discriminatory behavior (Blanton et al., 2009). In addition, Blanton et al. (2009) reported that the IAT is "not informative as a diagnostic tool in the way that would be most natural in legal settings because no individual's discriminatory behavior could be reliably predicted from his or her IAT score" (Blanton et al., 2009, p. 578). Consequently, the authors argued there is not enough robust evidence to warrant the claim that IAT data can be used to accurately, or reliably diagnose, or predict, the likelihood of anyone actually engaging in the discriminatory behavior under investigation (Blanton et al., 2009).

It is argued, in this thesis, that the criticisms and observations of Blanton et al. (2009) as noted above, also call into question the validity and use of this measurement tool within forensic domains. Indeed, even for those studies within forensic domains using this methodology, that do report significant findings (e.g., Mihailides et al., 2004), researchers note that the exact role cognitive distortions play in actual offending behavior, remains unclear and untested (Mihailides et al., 2004).

Other researchers have suggested that significant findings from IAT studies, far from capturing implicit bias, may be measuring familiarity with specific stereotypes which is not the same as unconsciously endorsing those stereotypes in any particular meaningful way (e.g., Arkes & Tetlock, 2004). The findings of yet other studies suggest that IATs perform no better than simple explicit measures. However, there is research which reports promising results for a self-injury IAT and real-world self-harm using the IAT (Nock et al., 2016). Regardless, it would appear that IAT scores, on the whole, are not connected to real-world outcomes/actual behavior, thus it is argued in this thesis, that their use in forensic research is potentially questionable.

As for LDT methodology, it does indeed appear that this approach has been able to further research related to, for example, areas such as inter-hemispheric communication in people with reading disabilities (e.g., Rutherford, 2006). However, it has been suggested that perhaps LDT methodology does not measure forensic-related cognition since, as Blake and Gannon (2010) point out, other researchers employing this methodology have failed to find significant presence of ITs in child molesters (i.e., Keown et al., 2008). Similarly, the use of methodology informed by theories (e.g., Bartlett, 1932; Neisser, 1981; Schacter, 2000) of memory recall (e.g., Gannon et al., 2006; Keown & Gannon, 2008) appears not to tap into forensic cognition. However, as noted in this section, both Gannon et al. (2006) and Keown and Gannon (2008) make some potentially very interesting observations related to their unexpected findings — which deserve a little more attention.

In the Gannon et al. (2006) study, results showed that both participant groups demonstrated a number of recall account distortions and added extraneous elements to the vignette narratives, indicating that, in line with the constructive (e.g., Bartlett, 1932; Neisser, 1981) perspective of memory, they *were* filling in memory gaps, (Gannon et al., 2006). Additionally, CSOs displayed low levels of cognitively distorted recall and, in keeping with comparison inmate controls, did not cognitively distort the descriptions designed to tap into Ward's ITs (Gannon et al., 2006). Furthermore, in the Keown and Gannon (2008) study, involving three distinct stages of information processing (i.e., priming, encoding and retrieval, Keown & Gannon, 2008), CSOs in the priming condition demonstrated significantly longer picture viewing times compared to OCs; indicating that CSOs' beliefs linking children and sex *were* presumably activated (Keown & Gannon, 2008). However, in the priming condition OCs demonstrated no signs of sexual interest in the child pictures, compared to CSOs, but recognized a

greater ratio of sexual sentences in the retrieval part of the experiment compared to CSOs—despite the significantly longer viewing time demonstrated by CSOs (Keown & Gannon, 2008). One reason posited for the Keown and Gannon (2008) result, included the notion that CSOs in the priming condition behaved defensively in claiming not to recall familiar looking sexualized sentences (Keown & Gannon, 2008).

It may also be that an attachment perspective can offer up a potential explanation for Gannon et al.'s (2006) and Keown and Gannon's observations. For example, towards the end of Chapter 1 (pp. 27-30), we considered the ways in which Bowlby's (1969/1982, 1973,1980) tripartite conception (i.e., IWMs, defensive exclusions, attachment style), of attachment can be mapped onto a social cognitive perspective (i.e., conceptualized in terms of structural, process and product levels) of cognition (see Table 3, Chapter 1, p. 30). At the end of Chapter 2, (pp. 49-50), it was further suggested that Ward's (Ward, 2000; Ward & Keenan, 1999) conception of problematic (e.g., a dangerous world) ITs (see Table 6, p. 50), underpinned, at the structural level by (negative) IWM content, can also be integrated into this mapping model.

Therein, focusing upon defensive exclusions (located at the process level of cognition), to recap —deactivation (associated with dismissing attachment), is a pre-emptive strategy activated at the *encoding* stage of information processing (see Chapter 1, p. 26). This means that potentially upsetting and threatening information is dismissed and never consciously processed or transformed in some way so that it is not distressing (Bowlby, 1969, 1973, 1980; George & West, 2012): Adult rapists are said to be typified by a dismissive attachment (Stirpe et al., 2006; Ward, et al., 1996). On the other hand, cognitive disconnection, associated with an ambivalent/preoccupied attachment style and a more conscious level of awareness (see Chapter 1, pp. 26-27), involves an

immediate disconnection of 'affect, cause, source and effect'. This enables interpretation of the meaning to be disallowed and 'glossed-over' at a pre-reflective level of awareness: A post-emptive defense, aimed at repressing material, it is implemented at the *retrieval* level of information processing (Fraley & Brumbaugh, 2007; George & West, 2012). CSOs are said to be typified by preoccupied attachment styles (Stirpe et al., 2006; Ward et al., 1996).

Based upon the above recap, it may be that in the Keown and Gannon (2008) study, primed CSOs, typified by an ambivalent/anxious attachment style, underpinned by the defensive exclusion of cognitive disconnection, did indeed behave defensively in claiming not to recall familiar looking sexualized sentences (Keown & Gannon, 2008): by repressing material at the retrieval level of information processing. After-all, results clearly demonstrated stimuli was being encoded, hence an expectation that associated information, in the form of sentences, would be retrieved. It is, however, possible that in the encoding part of the study, the pictures reminded CSOs of their own offences, or for CSO historical victims of abuse, their own victim experience: either of which they felt a need to defend against: These thoughts might then explain the longer time recorded during the encoding phase and the lack of retrieval.

In this regard, research by Marshall, Serran, Marshall, and Fernandez (2005), clearly demonstrates the ways in which offenders repress offence details, presenting as having no recall of their offence (Marshall, Serran, Marshall, & Fernandez, 2005). Additionally, it has been suggested that some investigative techniques can cause a "strongly activated representation…too painful to acknowledge" which may, "leave its mark through a defensively transformed derivative" (Westen, 1992, p.384); in other words, the transformation of a negative thought or feeling into its corresponding opposite. Perhaps, some studies, which return confusing or conflicting results may,

unwittingly, be priming, not participants' underlying cognitive content as such, but rather their defensive (exclusions) mechanisms: resulting in data, reflective of what Westen (1992) refers to as being that of a defensively transformed derivative.

Consequently, as discussed in section one of this chapter, it may be that a knowledge of attachment style, underpinned by defensive exclusions, would enable researchers to anticipate an alternative pattern of respondent data. For example, in a re-run of the Keown and Gannon (2008) study, wherein participants were categorized according to attachment style, it would be anticipated that at the encoding stage of the experiment: (1) ambivalently attached individuals would demonstrate significantly longer viewing times for images of children compared to dismissingly attached participants (as was reported by Keown & Gannon 2008). We might also hypothesize that despite this longer viewing time, ambivalently attached respondents, due to the defensive mechanism of cognitive disconnection, would demonstrate greater recall failure at the retrieval stage of the experiment compared to dismissingly attached individuals (as was reported by Keown & Gannon 2008).

Similarly, in the Keown et al. (2008) study, employing LDT methodology, it was noted that, contrary to predictions: CSOs did not show any difference in word stem completion task response times for child/sex themes when compared with control groups (Keown et al., 2008). This result could be due to the extra effort needed by CSOs to defensively exclude this information at the encoding level of information processing, reflected in slower response times: An understanding of the attachment/defensive exclusion link might mean that the reported pattern of results, are indeed, the expected pattern of results for CSOs who are associated with an ambivalent attachment type, which is, in turn associated with the defensive mechanism of cognitive disconnection. With the creation of George and West's (2012) AAP (Adult Attachment Projective

System, see Chapter 1, p. 25), defensive exclusions can be controlled for when conducting studies into forensic cognition: However, clinicians must undergo specialist training before being able to administer the AAP, meaning that this is not an approach easily open to all clinicians and researchers (George & West, 2012).

Once again, as this chapter draws to a close, it is suggested that controlling for attachment when investigating forensic cognition, may help not only to better inform future research into cognitive distortions, but may also go some way to explaining previously confusing and confounding results.

CONCLUSION

In section one of this chapter, we discussed methodologies employed by researchers to investigate sexual offenders' cognitive distortions at the process level of cognition. When reviewing these earlier studies, we saw that, amongst others, one of the most challenging areas for researchers is how to overcome the phenomenon of socially desirable responding. Section two focused on methodologies using more indirect or implicit cognitive tasks to tap into forensic cognition. However, we saw that these approaches were sometimes criticized for being no better than simple explicit measures, and unconnected to real-world outcomes/actual behavior: thus making their utility in forensic research questionable. In both review sections of this chapter, it has been suggested that attachment theory may provide researchers with a complementary framework within which to situate, and thus further, empirical research into sexual offenders' cognitive distortions.

It is acknowledged that investigating participants' defensive exclusions is a lengthy and time-consuming exercise, and can only be undertaken by trained clinicians (see George & West, 2012). However, a knowledge of the attachment style/defensive

exclusion link would at least enable researchers to begin investigating whether controlling for attachment style helps to explain previously confounding findings, and also to know whether specific experimental paradigms are better suited to particular attachment types. In addition, if we accept that ITs are underpinned by IWMs, which are said to develop during earlier pre-verbal developmental phases, when information is being encoded within more primitive, non-verbal modes of cognition: then perhaps we may look to other methodologies and approaches which make use of these non-verbal modes, to both complement and further investigations into offenders ITs.

The next chapter considers methodology from the domain of art therapy which may offer a novel and alternative paradigm that encapsulates the concepts discussed in this chapter.

CHAPTER FOUR

<u>Art Therapy Methodology</u>

The aim of this chapter is to demonstrate why and how, methodology from the domain of art therapy, may be used to complement existing methodologies, such as those discussed in section two of Chapter 3, designed to investigate sexual offenders' cognitive distortions. In Chapter 1, we focused upon the ways in which negative early attachment experiences can result in maladaptive internal working models (IWMs) related to self, others and the world. Therein, it was noted that during this early developmental phase, IWM content, (also implicated in the formation of Ward's (Ward, 2000; Ward & Keenan, 1999) conceptualization of ITs), is encoded within more primitive, non-verbal modes of cognition. In this chapter, we focus upon one of those non-verbal modes of cognition, namely pictorial cognition, one of many forms of thinking in non-verbal representations (Horowitz, 1967). In pictorial cognition, information is processed and organized in the form of imagery and symbolic representation, and is said to possess particular psychological utility, especially in relation to affectively charged memories, ideas and concepts (Horowitz, 1967). Art therapy methodology, taps into those more primitive, non-verbal modes of cognition, including pictorial cognition. This chapter will argue that art therapy methodology is supremely suited for investigating the deeper, more implicit cognition (i.e., IWM content) underpinning problematic ITs.

INTRODUCTION

This chapter, divided into four sections, begins with a brief overview of the use of drawings as a non-verbal means of communication and assessment. Section two focuses upon drawing tasks from the domain of art therapy, which have proven their utility in investigating constructs implicated in emotional functioning. This section draws to a close by considering the ways in which these tasks can be applied to investigate a Dangerous World IT. Section three considers art-therapy drawing tasks designed for investigating cognitive constructs implicated in intellectual functioning. Section three finishes by outlining how these tasks may be utilized to investigate an Uncontrollability IT: The reason that the focus falls upon these specific ITs, in this and the remaining chapters, is due to the fact that the nature of the cognitive content underpinning each, appears to be common to both rapists (Polaschek & Ward, 2002) and CSOs (Ward & Keenan, 1999) (see Chapter 2).

Additionally, the cognitive content implicated in a Dangerous World IT and an Uncontrollability IT, has also been identified and investigated within non-offending populations:[1] For cognition implicated in the former IT, using Duckitt, Wagner, Du Plessis, and Birum's (2002) Dangerous and Threatening Social World View Scale; For the latter IT, though not specifically related to the ability to control *sexual* desires and actions, Vallacher and Wegner's (1989) Behavior Identification Form (Vallacher & Wegner, 1989), has been employed to investigate cognition implicated in the acquisition of self-agency and the ability to control one's actions.

Section four discusses how drawing tasks and visualization, often employed as a combined task by art therapists, may be usefully employed to further access unconscious content. Whilst it is acknowledged that there exists a variety of art media that are employed to

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[1] The participants employed for the studies in this thesis were drawn from the non-forensic population due to the difficulty of accessing forensic samples: this issue is addressed in Chapter 9 of this thesis.

work with individuals within the domain of art therapy (e.g., Hinz, 2009), this thesis confines itself to the use of drawings. For research purposes, drawing tasks are cost effective, they are also easy to administer when compared to other media such as paint and clay, and administration requires no skilled knowledge on behalf of the researcher.

An overview of the use of drawings as a non-verbal means of communication and assessment

Over the last century, there has been an interest in the interpretative use of drawings to better understand emotional and psychological aspects of individuals in treatment (Betensky, 1995; Leibowitz, 1999; Malchiodi, 1998; Oster & Crone, 2004). This interest is neither new nor novel, since drawings, together with other artistic creations, have always been viewed as an extension of personal and interpersonal communication (Oster & Crone, 2004). The earliest known works of art have been dated back to about 20,000 years ago during the last stage of the Paleolithic period, mainly in Spain and southern France (Janson, 1991). Predominantly catalogued in archaeological investigations, and extensively studied by both archaeologists and art historians alike: these creative productions serve as examples of how early men and women attempted to express and communicate their ideas and emotions (Janson, 1991; Oster & Crone, 2004).

An interest in the interpretative ways in which drawings have the potential to reveal intra-psychic content, can probably be traced back to the late 1800s and early 1900s when, throughout Europe, interest in the art productions of the mentally ill began to grow (Oster & Crone, 2004). During this time, drawings by the mentally ill began to offer themselves up as a framework for discussion amongst health providers, searching for diagnostic criteria for different types of psychopathology (MacGregor, 1989; Oster & Crone, 2004). It was believed

that art expressions could confirm a diagnosis, particularly in more severe forms of mental illness like schizophrenia (Malchiodi, 1998).

In the 1920s, Hans Pinzhorn, a psychiatrist and art historian collected 5000 pieces of artwork executed by mentally ill patients and his publication of this material drew attention to the potential that artwork contained information pertaining to diagnostic value and rehabilitation (Prinzhorn, 1972). A recent case in the United States, documents how the artwork produced by a murderer, for whom the prosecution were seeking the death penalty, was used as evidence to demonstrate that the accused was mentally ill at the time he committed the crimes (Gussak, 2013). Both psychologists, using more traditional assessment methodology and the art therapist (assessing art work by the accused), independently came to the same conclusion: that the defendant was suffering from schizophrenia, thus he was spared the death penalty (Gussak, 2013).

During the 1920's, the now well-known personality assessment instrument, 'Draw-A-Man' test was devised and standardized thus highlighting children's drawings as the subject of much speculation in describing intellectual and emotional development (Goodenough, 1926; Handler & Thomas, 2014). As a non-verbal test of intelligence, clinicians soon began to notice how this test reflected personality traits and issues (Handler & Thomas, 2014). From then on the use of human figure drawings in psychological assessment with children, became common and has had a long, if albeit, controversial history (Handler & Thomas, 2014; Riethmiller & Handler, 1997). Nonetheless, art expressions have come to be viewed by many as uniquely personal statements containing elements of both conscious and unconscious meaning for the individual (Malchiodi, 1998).

However, any mention of art as a vehicle for revealing unconscious content, cannot really be made without reference to Freud. Freud suggested that symbols represented forgotten memories (Freud, 1997). Freud viewed symbols as disguises for anxiety-laden content,

thought to protect individuals from becoming emerged in dreams, and compared to a verbal expression of this content, they were thought to be more easily expressed via artwork (Freud, 1997). Carl Jung was another well-known exponent of using drawings and art in his work with clients to reveal unconscious content (Jung, 1974).

It must, however, be noted that the main methodological issues arising from art based assessment measures, have tended to revolve around reliability and validity, and the limited amount of studies investigating these issues (e.g., Betts, 2006; Handler & Thomas, 2014; Gantt, 2004). Nonetheless, rather than being dismissive of art based research, the findings from these studies, when approached in a selective manner, can, as argued by Betts and Groth-Marnat (2014), contribute to the potential benefit to be derived from art therapists and psychologists collaborating in the clinical assessment and treatment planning process using drawing based measures (Betts & Groth-Marnat, 2014).

Drawing tasks for investigating emotional cognitive constructs

This section looks at drawing tasks devised by art therapists for use as diagnostic tools in assessing emotional functioning. Drawing assessments designed to investigate and evaluate the emotional content of a picture, are concerned with the actual content (i.e., *what* is drawn, Gantt & Tabone, 1998) of the drawing. For example, the focus is upon the narrative of the pictorial content, in terms of whether the overall story is emotionally positive or negative (e.g., Silver 2002, 2005). When using the products of drawings from either a research or clinical perspective, it is always preferable, when possible, to inquire about the individual's own interpretation of their drawings, instead of imposing views upon the content (Oster & Crone, 2004). However, this is not always possible, necessary or required. Additionally, conclusions prompted by drawing data, as with all data, become more reliable and valid when analysing a

series of drawings compared to one isolated drawing (e.g., Handler & Thomas, 2014; Oster & Crone, 2004).

Verbal language is our primary medium of communication (Stapel & Semin, 2007), and enables humans to use words as a means of communicating experiences and thoughts to others using words (Dubowski, 1990). This means we are able to classify and make sense of our experiences in a very structured and elaborate way (Dubowski, 1990). However, it is often the case that individuals cannot find, or have no words to describe how they, as individuals, are uniquely thinking and feeling (Dubowski, 1990). For example, the deeper, more meaningful emotional content that accompanies the basic emotion word (e.g., O'Kearney & Dadds, 2004) 'sad', uttered by ten different people, is likely to be equally very different and unique for each individual.

Therein, the linguistic relativity hypothesis, though contested (Stapel & Semin, 2007), states that language can also constrain cognition (Whorf, 1957). Related research also indicates that an increase in age is accompanied by a move away from using basic emotion language to communicate inner states (e.g., sad, scared) towards more complex, abstract and mixed linguistic representations of emotion (e.g., furious; O'Kearney & Dadds, 2004). This in turn, may make access to inner emotional states more challenging (O'Kearney & Dadds, 2004).

For example, research indicates that depressed individuals distance themselves from recalling specifics of emotionally traumatic events by employing more abstract language as an avoidance strategy (Conway & Pleydell-Pearce, 2000). As discussed in Chapter 1, a key characteristic of men in the general and forensic populations who (sexually) aggress against women (e.g., Malamuth & Brown, 1994), is lack of empathy (e.g., Laws & O'Donohue, 2008): empathy is the key component implicated in the construct of Emotional Intelligence (EI, Mayer, Roberts, & Barsade, 2008; Parrot, 2001): also sometimes, referred to as 'emotional literacy' (Killic, 2006). The inability to express oneself emotionally, though not exclusively, is often

associated with individuals in forensic populations (e.g., Knight & Modi, 2014; Liebmann, 2008) and research reports that, particularly male offenders, can struggle with Alexithymia, a condition meaning that they encounter difficulties related to emotional expression, or emotional vocabularies (Muller, 2000).

In their work to increase emotional literacy with sex offenders, Knight and Modi (2104) report that many "offenders are frequently unable to conceptualize, let alone articulate, their stories, both of their life experiences and their current offending". (Knight & Modi, 2014, p. 133). In these instances, art therapy can be used very effectively with offenders, of both a non-sexual and sexual variety (e.g., Gussak & Virshup, 1997; Liebmann, 2008). Thus it is, that in the absence of language (Dubowski, 1990), a deficit in linguistic development (e.g., Silver, 2002), the presence of learning difficulties (e.g., Loucks, 2007), or purely as an alternative to verbal language (Silver, 2002): the language of art offers another medium through which to communicate, and investigate authentic inner experiences and thoughts for the self and to others.

It is perhaps useful to note at this point -particularly in order to further support the use of art therapy methodology in this thesis, and more generally, in forensic domains (both from a research and applied context), that although language is a system of communication and therein an important vehicle for containing and expressing thought; it is not thought itself (Pinker, 1995). Vygotsky (1986) believed that thought and speech, have different roots in development, with the two initially being independent. Thought is pre-linguistic (i.e., thought in the form of sensory/embodied and pictorial modes of experiencing); speech is pre-intellectual (the infant begins to babble/speak without understanding what s/he is actually saying, Vygotsky, 1986). In development, thought and speech merge, thought becomes verbal and speech becomes rational (e.g., Bjorkland, 2005; Piaget, 1952; Vygotsky, 1986).

The acquisition of language thus enables these deeper thought forms to be translated,

understood, communicated and shared with others in verbal conceptual modes of cognition. Consequently, verbal language can be seen as an abstraction of the original (i.e., sensory/embodied/pictorial) thought that it actually conveys (e.g., Dubowski, 1990; Lakoff & Johnson, 1980). Whereas pre-linguistic forms of thought, including that of pictorial cognition, can be conceived of as the authentic, core form of the original thought or affect (e.g., Horowitz, 1967 - see also Hinz's Expressive Therapies Continuum (ETC) 2009).

It is also claimed that engagement of the imagination in the artistic process, enables people in the present to make connections, not only with the past, but also the future (Beaney, 2005): potentially facilitating the development of a more reflective stance (e.g., those cognitive skills implicated in the development of a ToM and empathy, a lack of which, as we have seen, are in turn associated with a deficit in self-agency (see Chapter 1, pp. 14-16). Csikszentmihalyi (1996), draws upon research which indicates that creative individuals demonstrate a less rigid attitude, and more inclusive perspective to solving problems, and that creative boys are more sensitive and less aggressive than their male peers (Czikszentmihalyi, 1996).

Additionally, by tapping into more primitive modes of non-verbal cognition, it is said that art therapy methodology has the potential to bypass defensive mechanisms (Gerber, 1994). The process of engaging in art therapy then, allows for implicit memory and thought to become rescued from their wordless form, creating concrete forms (i.e., drawings) of experience (Case & Dalley, 1992; Hinz, 2009). The next subsection takes a look at specific art therapy tasks, employed to access non-verbal information related to emotional functioning in both clinical and non-clinical populations.

The Drawing from Imagination Task. The Drawing from Imagination Task, is one of three art assessments (Drawing from Imagination, Predictive Drawing, and Drawing from Observation, see Silver, 2002), from the Silver Drawing Test (SDT, Silver, 2002): For the purposes of this thesis, the Drawing from Observation task will not be discussed (please see

Silver, 2002 for further information)[2].The SDT was originally created to use in work with children who had difficulties with understanding and/or communicating verbally. The SDT, which, in total, takes about fifteen-minutes to complete, has subsequently been extended to work with adolescents and adults (Silver, 2002). Each of the three drawing tasks can be administered and scored separately (Silver, 2002):

The Drawing from Imagination Task provides respondents with an array of stimulus drawings/subjects (see Appendix II), and respondents are then asked to choose two of the stimulus subjects, imagine something happening between them, and then produce a drawing of their own reflecting that interaction (Silver, 2002). Participants are encouraged not to just copy the stimulus drawings, but to make their own changes. Upon completion of the drawings, respondents are encouraged to add a title or short story to accompany the picture. Wherever possible, the content of drawings and stories are discussed with respondents, and this can be particularly helpful in the context of unclear or metaphoric drawings (Silver, 2002).

Research has shown that responses to the Drawing from Imagination Task often reflect (i.e., are a projection of) wishes, fears, frustrations, and conflicts, as well as inner resources such as resilience and self-disparaging humour (Silver, 2002). Responses are scored on 5-point rating scales, and guidelines (see Appendix III) for the emotional (hereinafter interchangeably referred to as EC) and self-image content[3] (hereinafter interchangeably referred to as SI), of drawings and range from (1) strongly negative to (5) strongly positive (Silver, 2002). An additional assessment, the Draw-a-Story (DAS) task, created by Silver (2002), is founded on similar principles to the Drawing from Imagination task (Silver, 2002, 2005). Although the DAS (originally created to assess depression), employs a selection of different stimulus drawings (Appendix III), research has demonstrated that both the Drawing from Imagination,

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[2] This task investigates the ability to represent spatial relationships: In order to avoid participant overload, only those tasks considered essential to the constructs under investigation in this thesis, were employed.
[3] An additional scale for rating humour is also provided but was not used in the empirical studies conducted for this thesis: for more information, please see Silver (2002).

and DAS tasks access the same (i.e., emotional and self-image) constructs (Silver, 2002). Therein, the same information can be elicited by utilizing the same scales across these two test formats (Silver, 2002).

Validity and Inter-rater reliability for the SI and EC scales. From the outset, it is noted in this thesis that the main methodological issues arising from art based assessment measures, revolve around reliability and validity (e.g., Betts, 2006; Handler & Thomas, 2014; Gantt, 2004). This section takes a look at a selection of studies conducted to address these issues in relation to the SI and EC scales used in conjunction with both the Drawing from Imagination and DAS tasks.

In order to rate SI, it is firstly important to be able to identify which of the graphic elements the artist is identifying with. To validate the SI scale, a series of studies were conducted. In one study, Silver (1992) investigated whether participants tended to select principal stimulus subjects to draw that were the same gender as themselves. A total of 261 (n = 145 males and n = 116 females aged 7 to 10 years of age) participants were examined, and the gender of the stimulus subjects they chose, together with a consideration of the subjects of their sentences (e.g., he or she) and their use of pronouns (e.g., my, her, his) analysed. Results indicated that the majority of participants significantly ($p < .001$) chose same-gender subjects (Silver, 1992).

Another study (Silver, 1993) employing ($N = 531$) male and female children and adults, spanning five age groups: 7-10 years (children) 13-16 and 17-19 (adolescents), 20-50 (younger adults) and 65-years plus (older adults), once again confirmed these significant ($p < .001$) findings. Interestingly, it appeared that the tendency to select same-gender stimulus subjects, peaked in childhood, reaching its lowest level amongst adults (Silver, 1992, 1993, 2005). In a further study Silver and Ellison (1995), investigated whether SI drawing data can successfully be scored blindly without having any additional information about the respondent being

investigated. Three sets of self-image data pertaining to the same collection of drawings by (N = 53) delinquent adolescents (aged between 13-18) residing in a residential facility, were sent to a psychologist for analysis. The first set of data was from the juveniles themselves and involved their own evaluations of their drawing self-images. The second set of data was from Ellison, an art therapist working in the residential facility at the time. The third set of data was obtained by Ellison sending the drawings only (i.e., with no additional information about the participants) to Silver for scoring (Silver & Ellison, 1995).

Analysis showed that of the 53 juveniles, 39 of them identified characters in their drawings as themselves. Ellison correctly matched 76.9% of the adolescents in identifying self-images, Silver judging blindly, accurately matched 71.8%. Approximately 71.4% of the juveniles agreed with Silver and Ellison as to the identity of their self-images, with five disagreeing – even though the art therapists agreed with one another in their self-image identification of these five drawings (Silver & Ellison, 1995). Inter-scorer agreement between Ellison and Silver for these 53 respondents was 94.3%. The level of agreement between the adolescents, and the judges for the blind study, was taken to constitute a validity index of the SI measure (Silver, 2005). These results indicate that, although discussion with respondents about their drawings is preferable, it is not necessary, and drawings can be scored blindly.

Further investigations into the differences between aggressive and non-aggressive sample populations were carried out, analysing DAS[4] drawings (Appendix II) and employing a sample of (N = 30) known aggressive children and adolescents (i.e., with a history of having aggressively or violently within their respective schools), and their data compared with a non-aggressive (N = 181) control group (Earwood et al., 2004). Results showed that aggressiveness was significantly related to EC scores, $F(1,209) = 7.06$, $p = .01$. When compared to non-

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[4] As previously pointed out, the Drawing from Imagination, and DAS tasks access the same constructs (Silver, 2002). Therein, the same information can be elicited by utilizing the same scales across these two test formats (Silver, 2002).

aggressive respondents, aggressive students were rated with lower (i.e., more negative) EC content (Earwood et al., 2004). Analysis also showed that aggressiveness was significantly related to self-image scores, $F(1,209) = 3.86$, $p = .05$. In this instance, when compared to non-aggressive students, aggressive students exhibited significantly higher scores on the self-image scale. Aggressive respondents were significantly ($p < .001$) more predisposed to draw strongly negative fantasies and strongly positive self-images, compared to non-aggressive students (Earwood et al., 2004).

Significant ($p = .002$) gender differences in aggression also emerged in the data, with drawing data for male students being more likely to be classified as aggressive compared to female respondents (Earwood et al., 2004). Females were also significantly ($p < .001$) more likely to be rated with more positive EC compared to males. Furthermore, when compared to aggressive female students, aggressive male students exhibited significantly ($p = .02$) higher scores on the SI scale (Earwood et al., 2004). No significant age differences were reported in this study (Earwood et al., 2004).

These findings, gleaned from drawing data, appear to agree with those in the wider psychological literature, suggesting that aggressiveness, predominantly viewed as a male trait, is reinforced within cultures, whereas females tend to conform to feminine behavioural stereotypes that favour the suppression of aggression (Connor, 2002). However, investigators into female and male aggression have observed that females can be just as aggressive as males, but due to their socialization, generally do not display their aggression in the overt ways that males do (Archer, 2004). Thus, female aggression tends to be more indirect, covert, and often relational, making it more challenging to observe and quantify (Bjorkqvist, Österman, & Kaukianen, 1992). By adopting indirect and covert forms of aggression, which can include inducing others to attack on the aggressor's behalf, the aggressor is protected from recipient retaliation (Zoccolillo, 1993). Female aggressiveness has been correlated with variables such

as sexual abuse, family dysfunction, depression and anxiety (Trickett, Noll, & Putnam, 2011).

In order to obtain data for scorer and retest reliability of the SDT, all three tasks were administered to 1,399 children, adolescents and adults (Silver, 2002) by a combination of art therapists with special/no training in the task, teachers and psychotherapists with no special training. The inter-scorer reliability coefficient for the Drawing from Imagination task was .98. In order to determine reliability for the SI and EC scales, five judges (four registered art therapists and a graduate art therapy student: with prior training in assessment with these scales), independently evaluated responses from a group of drawings selected at random. Using the statistic Intraclass Correlation (ICC), inter-scorer reliability for the SI scale was .74 and for the EC scale .9, thus demonstrating moderate and strong inter-scorer reliability. The SI scale was also found to be significantly related ($p < .01$) to scores on the Metropolitan Achievement Test (Silver, 2002): The MAT is a standardized test for students used in American kindergarten through to twelfth grade and evaluates skills such as critical thinking, math, science, spelling and reading (e.g., Hurt & Mishra, 1970).

Putting It All Together: Using the Drawing from Imagination Task to Investigate a Dangerous World IT. This sub-section of Chapter 4, outlines how the information discussed and reviewed in this, and Chapters 1, 2 and 3 may be mapped onto one another to create a theoretical framework within which to creatively explore the implicit component (i.e., the deeper, unobservable cognition) of a Dangerous World IT.

In Chapter 2 (e.g., p. 47-48), we saw how the cognition of an individual with a Dangerous World IT is informed by the fundamental belief of the world as being a hostile and dangerous place, filled with people who are selfish and untrustworthy (Ward & Keenan, 1999). In the Introduction to this thesis, explicated further in the evaluation sections of Chapter 3, we also discussed that, due to their unobservable nature, researchers and practitioners working in

the area of cognitive distortions, have few tools to distinguish between genuine cognitive distortions and excuses or justifications. Therein, we also considered Ward's (2000) Implicit Theories theory (Chapter 2, pp. 43-52), which views offender statements, appearing to represent cognitive distortions, as the end-stage cognitive products of a process that begins during early development. We saw that one hypothesized early factor in this chain of events, the focus of Chapter 1, is the presence of insecure attachment experiences, underpinned by negative IWMs and mediated by defensive exclusions (see Chapter 1 pp. 25-27).

In Chapter 3, when looking at methodologies currently employed to investigate offenders' cognitive distortions, it was argued (pp. 95-96) that some investigative techniques/paradigms, may, by triggering defensive mechanisms, be unwittingly causing the very information under investigation, to be suppressed even further (George & West, 2012, p. 12; Westen, 1992). However, earlier in this chapter we have seen the ways in which art therapy methodology has the potential to bypass defensive mechanisms (e.g., Gerber, 1994, see this chapter p. 102). In this way, it is argued that by employing art therapy methodology, we may directly tap into cognitive content encoded within those more primitive, non-verbal modes of cognition associated with problematic ITs (Ward, 2000; Ward & Keenan, 1999). Furthermore, it is argued that the emotional, and self-image information accessed by Silver's (2002) Drawing from Imagination Task, can be conceptualized as constituting the same underlying cognitive content implicated in IWMs

As discussed in the introduction, and at intervals throughout this thesis thus far, clear theoretical differences exist between attachment theory and IT theory, the former being associated with the way individuals resolve issues of relationship insecurity and affect regulation, whilst; the latter being associated with implicit or folk explanations of the different aspects of the self, the world and other people, especially as they relate to threats and challenges (e.g., Ward, 2000). However, as previously argued, if we accept one of Bowlby's (e.g., 1988)

key tenets of attachment theory (see Chapter pp. 16-19), namely his conception of early experiences of attachment bonding, as creating a 'master' template underpinned at the structural level by IWMs, which subsequently inform the developmental integration of other, relationship-based behavioural systems (e.g., Hinde & Stevenson-Hinde, 1991; George & West, 2012), and; which are developing around the same time as the cognition informing problematic ITs (Ward, 2000), then: it is not unreasonable to suggest that ITs and attachment style, are underpinned by the same cognitive structures termed IWMs (see Chapter 2, Table 6, p. 50). Furthermore, if these structures are indeed encoded within non-verbal modes of cognition, then, as argued in the introduction to this thesis, art-therapy methodology is supremely suited for investigating and transforming this unobservable content into empirically visible and measurable forms of experience.

For this hypothesis to be supported, we would expect to discover that both an insecure attachment style (associated with problematic ITs), and cognition indicative of more problematic ITs, would share the same quality (i.e., more negative) of drawing content.

Consequently, by employing Silver's (2002) Drawing from Imagination Task drawing tasks, we would expect to find a responding pattern of more negative emotional and less powerful self-image content for an individual expressing a high belief in a Dangerous World IT, compared to an individual with a low belief in a Dangerous World IT. Additionally, because of the link between the development of problematic ITs and insecure attachment (Ward, 2000), one would also expect to find, that a higher belief in a Dangerous World IT, and more negative IWM content, would be associated with a more insecure attachment style.

Drawing tasks for investigating intellectual cognitive constructs

Drawing assessments investigating intellectual and cognitive functioning focus upon the physical or structural attributes (i.e., *how* things are drawn) of the graphic elements in a

picture (Gantt & Tabone, 1998). Assessors focus their attention on things like the use of colour in the picture, the shape, and the line quality of the graphic images (e.g. Gantt & Tabone, 1998). In studies conducted by art therapists working in clinical environments, it became clear that the *structural* content of drawings, as opposed to subject matter, was more informative when discriminating between patients and non-patients (e.g., Gantt & Tabone, 1998; Ulman & Levy, 1967). Unlike drawing tasks designed to assess emotional content, with drawing tasks designed to assess cognitive and intellectual functioning, the content is usually held constant in order to determine what structural aspects vary (e.g., each respondent draws or copies the same thing).

In the same way that within developmental psychology there are four universally invariant stages of cognitive development (e.g., Piaget, 1959), there is also a complementary developmental drawing sequence (see Appendix IV) that emerges in a child's maturation (Lowenfeld, 1947; see also Oster & Crone, 2004 for an overview). Similarly, just as there have been criticisms of Piaget's developmental stage theory (Bjorkland, 2005), there have also been criticisms of this invariant developmental drawing sequence in children (Oster & Crone, 2004). However, the majority of investigators of child development have acknowledged discernible differences in drawings during maturation (Oster & Crone, 2004).

An understanding of the graphic equivalents associated with these developmental drawing stages enables the trained clinician to analyse the products of a drawing, somewhat like a language, in terms of structure, quality, and content (Koppitz, 1984). Hence, cognitive capacity and intellectual development can be assessed and measured using drawing tasks (e.g., Hammer, 1967; Harris, 1963). For example, developmentally inappropriate drawing content can alert the clinician to the possibility of cognitive deficits and/or brain impairment in children (Oster & Crone, 2004), and in adults (e.g., Freedman, Leach, Kaplan, Shulman, & Delis, 1994; Niki et al., 2014; Rubin, Barr, & Burton, 2005).

Neuroscientists have long recognized that graphic representation is a complex activity involving complex interaction of physical and mental processes (Freedman et al., 1994). Drawing methodology is regularly employed within clinical neuropsychological practice, with the Clock Drawing Test (CDT) invariably appearing in the top 40 most commonly used neuropsychological instruments (e.g., Rubin et al., 2005). In common with other drawing tasks, the CDT utilizes a wide range of cognitive abilities (Freedman et al., 1994) and is a popular, cost-effective and very easy to administer tool, often used as a screening measure for cognitive impairment and dementia (Freedman et al., 1994).

Using other forms of drawing methodology, Niki and colleagues investigated human figure drawing in a group of adult patients with frontal lobe brain tumours (Niki et al., 2014). Significant differences in the patients' drawings mapped onto specific lesion in areas associated with the location of their individual brain tumours (Niki et al., 2014). Other research, investigating the art produced by visual artists after suffering neuropsychological deficits, demonstrates that their art often changes in content or style (Chatterjee, 2003). The next subsection takes a look at specific art therapy tasks, employed to access non-verbal information related to cognitive and intellectual functioning in both clinical and non-clinical populations.

The Predictive Drawing Subtest Task. Silver's (2002) Predictive Drawing Subtest task (PDT, see Appendix V), one of three art assessments from the Silver Drawing Test (SDT, Silver, 2002), mentioned at the beginning of this chapter, is designed to assess information implicated in the cognitive skill of. Conservation refers to a logical thinking ability which, according to Piaget, is present in children during the preoperational stage of their development at ages 4 – 5, but develops in the concrete operational stage at ages 7 – 11 (Piaget, 1967). Conservation refers to the ability to determine that a certain quantity will remain the same despite a change in appearance (e.g., adjustment of the container, shape, or apparent size, Piaget, 1967). The ability to conserve is basic in logical thinking (Bruner, 1966; Piaget, 1967):

enabling an individual to think and plan in a systemic manner and predict and represent a sequence (e.g., Piaget, 1967; Bjorkland, 2005).

This ability is necessary in order for an individual to be able to progress to the formal operational stage of cognitive development. This progression in turn, enables an individual to develop higher level (executive) processing abilities associated with verbal conceptual cognition; to think in an abstract and hypothetical manner (Piaget, 1967). When assessing this construct it is important to note that the rates at which conservation is acquired vary across cultures (e.g., Brekke, Williams, Landry, & Brekke, 1977).

The skills implicated in conservation include those that are involved in long-term goal planning and inhibition strategies (e.g., Gazzaniga et al., 2002), which are those that appear to be lacking in offenders expressing an Uncontrollability IT (i.e., *Behavior is directed mainly by powerful urges and emotions*", Ward et al., 2006, p. 124). Therefore, as we saw in Chapter 2 (e.g., pp. 45-47), these individuals believe they "*do not have agency over their own actions*", Ward et al., 2006, p. 124). It is notable that many adults (whether in offending or non-offending populations) do not reach a formal operational level of cognitive development (e.g., Kuhn, 2009).

Responses for each of the three PDT sub-test tasks are scored on 5-point scales, ranging from low (e.g. 1) to high (e.g. 5) acquisition levels for the concepts under investigation. Task (1) tests for the concept of *sequential order*. The aim of this task is to determine whether a respondent has acquired the ability to predict and represent a sequence. The task presents a series of line drawings of an ice-cream soda and six empty glasses, the respondent is asked to draw lines in the glasses to represent how the levels of the soda, if gradually consumed through a straw, would look. A respondent who draws a descending series of horizontal lines in the glasses without any corrections would receive a score of (5) reflecting acquisition of the concept. Corrections for this task (as with all PDT tasks), or use of an eraser, are taken to

suggest that the concept has been achieved through trial and error rather than systematically, thus reflecting a lower level of ability and achieving a lower score.

The aim of task (2) is to test for the concept of *horizontality*. Piaget and Inhelder (1967) observed that the most stable framework of everyday experiences involved thinking in terms of horizontals and verticals (Piaget & Inhelder, 1967). This fact may seem self-evident but when asked to draw horizontal water level lines in tilted bottles, children tend not to be able to do this until around 9 years (i.e., concrete operational level; Silver, 2002). This task, presents outline drawings of an upright and tilted bottle and asks respondents to draw lines to indicate how the bottles would appear if half-filled with water. Respondents who draw a horizontal line in the tilted bottle received a score of (5) to reflect acquisition of the concept of horizontality.

For task 3, respondents are presented with a drawing of a house on top of a steep mountain and asked to draw how the house would look if moved to a spot marked 'X' on the slope of the mountain (Silver, 2002). This task investigates the concept of verticality. Piaget and Inhelder (1967) observed that when they asked 5 year olds to draw trees or houses on the outline of a mountain, they drew these inside the mountain. As children matured, they drew trees and houses perpendicular to the slope and reaching the age of 8/9 years (concrete operational level), began to draw them upright. The task is based on the premise that a respondent who draws a vertical house that is cantilevered or supported by posts, has acquired the concept of verticality and is thus awarded a score of (5) (Silver, 2002). The task has been administered and scored in several countries around the world, including America, without prior training by teachers and mental health professionals (Silver, 2002).

Reliability, Validity, and Normative Data for the Predictive Drawing Subtest Task. In order to obtain data for scorer and retest reliability of the PDT and compare overall SDT results to traditional tests of achievement or intelligence, SDT was administered to 1,399 children, adolescents and adults (Silver, 2002) by a combination of art therapists with special/no training

in the task, teachers and psychotherapists with no special training. In these studies, inter-scorer reliability for the PDT ranged from (.71 to .99), thus, suggesting moderate to strong reliability, with results also indicating that specialist training sessions for judges are unnecessary (Silver, 2002). Retest after one month for the PDT (.80) suggest strong test-retest reliability (Moser, 1980).

In order to test for (construct) validity, the relationship between the PDT and the SRA Survey of Basic Skills Ability (a test used in the 1990's to assess ability and progress in schools in Nebraska, Silver, 2002), was investigated: the scores on both tasks, which were administered to an unidentified number of thirteen and fourteen-year old school students, were compared (Silver, 1990). A significant ($p < .05$) positive ($r = 0.52$) correlation was found between the SRA score and the PDT task, indicating that ability and progress in school, were associated with higher scores on the PDT task and an ability to predict and represent concepts of sequential order, horizontality and verticality (Silver, 2002).

Moser (1980) also administered the PDT to 70 adolescents with and without learning difficulties and compared PDT scores with those on the Wechsler Adult Intelligence Scales (WAIS: Wechsler, 1955) Performance IQ test, and reported a significant ($p < .001$) positive correlation ($r = .50$) between these two tasks: Thus indicating that the PDT and WAIS Performance IQ test tap into similar abilities and assess similar constructs (Moser, 1980). Interestingly, when comparing PDT scores with the WAIS Verbal IQ and the Bender Visual Motor Gestalt (Bender, 1938) tests[5], Moser (1980) found no correlation for the WAIS Verbal IQ test, and a significant ($p = .01$) negative ($r = -.42$) correlation for the Bender Visual Motor

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[5] The former test requires the examiner to read questions (including those relating to general knowledge, digit span, vocabulary, arithmetic) aloud and for examinees to respond verbally, in this way the task draws upon auditory-verbal input and verbal output. The latter is a task which assesses visual-motor skills by asking participants to copy nine abstract designs, with ability to copy correctly receiving the highest ratings.

Gestalt test (Moser, 1980): These results, according to Moser (1980) and Silver (2002), appear to indicate that the PDT assesses conceptual skills (Moser, 1980; Silver, 2002).[6]

Normative data derived from respondents who resided in America and came from various ethnic and socio-economic backgrounds, indicated that the mean PDT score for young adults (mean age, $M = 28.7$ years), was ($M = 12.50$, $SD = 2.19$), and for senior adults (Mean age, $M = 80.8$ years) the mean score was ($M = 11.31$, $SD = 2.90$).

The Formal Elements Art Therapy Scale (FEATS) and the "Person Picking an Apple from a Tree" (PPAT) Drawing task

Informal observational studies, whilst working with psychiatric patients, lead to the observation that, in line with specific diagnoses in the *DSM* (American Psychiatric Association (APA), 1980), there appeared to be obvious similarities in the artwork of a number of major diagnostic groups (Gantt, 1993; Gantt & Tabone, 1998). These diagnostic groups included schizophrenia, major depression, substance abuse and bipolar disorder. These informal studies eventually lead to the creation of the Formal Elements Art Therapy Scale (FEATS), a measurement system designed for applying numbers to global variables in drawings and paintings (Gantt & Tabone, 1998).

Although originally created to be used in conjunction with a drawing assessment first described by Lowenfeld's (1939, 1947), "Draw a person picking an apple from a tree" (PPAT), the 14 scales (see Appendix VI) in the FEATS can be modified and applied to other types of drawings (Gantt & Tabone, 1998). For example, in the introduction to this chapter, reference was made to a recent case in the United States, wherein both psychologists and an art therapist (by assessing art work by the accused), independently concluded that the defendant was

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[6] Two sub-types of construct validity are: (1) convergent validity (determines the extent to which constructs that should be related to one another are in fact related), and; (2) discriminant (divergent) validity (this serves to confirm that constructs that should not be related to one another, are in fact, not related). If an assessment can be found to demonstrate both types of validity then it is said to have construct validity (Betts & Deaver, 2019).

suffering from schizophrenia, thus he was spared the death penalty (Gussak, 2013): Gussak (2013) came to his assessment by employing the FEATS scale to assess the offender's art work.

The FEATS can be used with clinical and non-clinical populations and across all age groups, and most, though not all, of the scales can be employed to assess abstract and/or non-representational art (Gantt & Tabone, 1998). Research with individuals given a DSM-IV diagnosis of Substance Use Disorder has found that three of the FEATS scales accurately predicted individuals with this disorder from a control group (Rockwell & Dunham, 2011). The ability of the FEATS/PPAT to accurately predict between a group of children with and without learning difficulties has been demonstrated (i.e., Attention Deficit Hyperactivity Disorder, DSM; Munley, 2011) The individual scales for the FEATS score each graphic element from (0) to (5), with lower values denoting no (i.e., 0) or less (i.e., 1, 2, etc.) evidence of the construct under investigation.[7]

For the FEATS/PPAT, drawing content is held constant and only the structural aspects of the art are of interest (Gantt & Tabone, 1998). In the DSM, a cluster, or pattern of symptoms defines a disorder, similarly, with the FEATS, a cluster or pattern (i.e., high scores on certain scales and low scores on others), is understood to describe the art of specific diagnostic groups (Gantt & Tabone, 1998). In other words, the structural elements of the drawings become the graphic equivalent of symptoms (Gantt & Tabone, 1998). For example, in the case of depression the authors report that the pattern appears to be low scores on Details, Prominence of Colour, Space and Implied Energy, and high scores on Logic (Gant & Tabone, 1998).

Research investigating graphic indicators of depression and self-efficacy in sixty young (non-clinical) adults between the ages of 20 and 30, using the FEATS/PPAT reported

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[7] A Content Tally Sheet is also included to capture additional information related to PPAT drawings (e.g., the depicted action, age and gender of the person, see Gantt & Tabone, 1998): It is not necessary to use this sheet in conjunction with the 14 FEATS scales.

significant findings which show the ability of this methodology to reliably distinguish individuals with a high degree of specific features of depression (Eytan & Elkis-Abuhoff, 2013). Gantt and Tabone (1998) are keen to emphasise that use of the PPAT or FEATS, must not be viewed as being absolutely tied to the DSM (APA, 1980). Furthermore, it should also be noted that within art-therapy circles, the linking of characteristics of art work, alongside psychiatric diagnoses, has been viewed as being reductionist, with many art therapists preferring not to adopt this approach (e.g., Gantt & Tabone, 1998)

There are 14 areas of interest that comprise of: 1) *prominence of colour* (i.e., the way in which colour is applied to objects and/or areas of the drawing: for example, if the entire surface of the drawing is covered with colour this would receive a higher score (e.g., 5); 2) *colour fit* considers the way in which conventional/realistic colour is used and is not really suitable for rating abstract and/or non-representational art; 3) *implied energy* (i.e., the degree of effort that appears to have been put into the work of art); 4) *space* (i.e., has 25% or 100% of the page been used); 5) *integration* (i.e., how integrated is the composition, what are the relationships of the graphic elements to one another). Within any piece of visual art, a coherent integration of its individual elements is said to be crucial (e.g., Wadeson, 1980). For example, with the PPAT, it is anticipated that the person, tree and apple will be drawn in such a way as to depict a relationship to one another that is integrated and balanced into a cohesive whole (Gantt & Tabone, 1998).

Integration is connected to higher cortical functioning and abstract thinking—abilities that are in turn, associated with higher level (executive) processing abilities associated with verbal conceptual cognition; to think in an abstract and hypothetical manner, underpinned by the ability of conservation (e.g., Bruner, 1966; Piaget, 1967). Conversely, visual art often described as being fragmented, or evidencing deterioration of composition, is associated with schizophrenia (e.g., Wadeson, 1980); 6) *logic* (i.e., do the graphic elements fit the task).: for

example, bearing in mind this drawing should be depicting a person picking an apple from a tree, are there any bizarre or unusual elements which are not part of the requested task response. This scale, focuses upon analysing the graphic equivalent of the "incoherence or marked loosening of associations" (Gantt & Tabone, 1998, p. 35), once again associated with schizophrenia (Gantt & Tabone, 1998).

As we saw above, when discussing the PDT, the ability to conserve is basic in logical thinking (Bruner, 1966; Piaget, 1967). Within the logic scale, humorous or satirical items are distinguished from those that seem to have no reason to be in the drawing; 7) *realism* (i.e., are all of the elements in the picture recognizable): more realistic and three-dimensional elements will receive a higher rating; it not necessary that people are trained artists just that they draw recognizable trees and people for example (Gantt & Tabone, 1998). Indefinable and bizarre elements may be indicative of loss of contact with reality: often found in people diagnosed with organic disorders such as Alzheimer's disease (Gantt & Tabone, 1998; Lehmann & Risquez, 1953); 8) *problem-solving* (i.e., how effective is the solution for getting the apple out of the tree), is a ladder employed to reach the apple in the tree? This particular scale is said to potentially capture the differences between patient groups at varying time periods over the course of an illness, more particularly the mood (e.g., depression) disorders (Gantt & Tabone, 1998).

The 9th level is the *Development level* which is not a scale that specifically relates to a symptom in the four Axis I disorders originally studied by the authors, but since many disorders are the result of arrested psychological development, this scale was included to see if scores on this variable correlated meaningfully with other variables. Level 10 is *details of objects and environment* (this scale cannot be used with abstract or non-representational art, only when the drawing directive includes the depiction of identifiable (i.e., an apple and a tree) objects. Level 11 is *line quality* (i.e., the overall line quality and degree of control exercised by the artist),

scorers would look for things like a shakily drawn line, or firmly drawn lines.

Level 12 is *person* (only for use with a directive that includes a person) scorers would judge whether the person actually looked like a person; 13) is *rotation which* measures any item that deviates from the expected vertical or horizontal position or from a presented design that is to be copied by the respondent; and finally, 14) is *perseveration which* is a repeated motor act such as making a mark, like a short line, over and over again and appears to be present in children and adults with organic mental disorders. In the above section, more detail was given to those areas investigated in this thesis: for more in-depth information on other areas, please see Gantt & Tabone, 1998.

Inter-rater reliability, validity and normative data for the FEATS/PPAT task. Employing three groups consisting of art therapists, recreational therapists and social work students to rate the same set of ten pictures, Williams, Agell, Gantt and Goodman (1996) reported excellent overall inter-rater reliability (see Table 7). A more recent study (see Table 9) by Bucciarelli (2011), demonstrated strong ($p < .01$) to moderate ($p < .05$) inter-rater reliability for all scales, except for the Perseveration (.49) scale (Bucciarelli, 2011). Kin-man Nan and Hinz (2012) conducted a pilot study with an Asian population ($N = 51$) to provide preliminary reliability data to support the cross-cultural use of the FEATS scale. Results of this investigation demonstrated high interrater reliability on the majority of the FEATS scales (Kin-man Nan and Hinz, 2012).

In order to investigate whether the FEATS scale was "valid and actually measured what we designed it to measure" (Gantt & Tabone, 1998, p. 45), studies were conducted to see if the FEATS scales could distinguish between at least two diagnostic groups (Gant, 1990; Gantt & Tabone, 1998) thus were in agreement with the DSM diagnosis of the AXIS I disorders associated with these groups. A sample of 25 individuals ($n = 5$ for each of the four Axis I disorders of interest) was selected, together with a control ($n = 5$) group (see Gantt (1990), for

more information on selection process). Results showed that 10 out of the 12 scales distinguished between two or more groups (Gantt, 1990, 1993) and were in agreement with the Axis I disorders assigned to these groups: Rotation and Perseveration scales did not achieve acceptable inter-rater reliability and were dropped from the analysis (Gantt, 1990, 1993; Gant & Tabone, 1998).

Bucciarelli (2011), conducted a normative study of the PPAT assessment with a sample of ($N = 100$) non-client participants (i.e., university students), aged between 18-24 years, all enrolled at an American university. Participants were only excluded from the study if they had a self-reported Axis I or Axis II diagnosis. Of this sample ($n = 46$) were male and ($n = 54$) were female. Analysis confirmed Gantt and Tabone's (1998) prediction of FEATS scores for a normative sample for all of the 14 FEATS scales, except for Developmental Level (Bucciarelli, 2011). With respect to Developmental Level, Gantt & Tabone (1998) had predicted that a non-client drawing sample would score at the adolescent developmental level ($M = 4.00$ or higher). However, in the Bucciarelli study, the mean score for Developmental Level was $M = 3.68$ with scores ranging from 2.50 to 5.00 (Bucciarelli, 2011).

The pilot study conducted by Kinman and Hinz (2012), referred to above, also obtained normative data to support the cross-cultural use of the FEATS scales. According to Kinman Nan and Hinz (2012), the results of this analysis showed that in general, scores were in the ranges predicted by Gantt and Tabone (1998). Kinman Nan and Hinz (2012) say that the similarity of results between their study and that of Bucciarelli (2011), conducted in the United States, suggest that similar processes are taking place which can be assessed non-verbally across cultures when the focus is on how people draw, as opposed to what they draw (Kin-man Nan & Hinz, 2012).

Putting it all Together: Using the PDT and PPAT/FEATs Drawing Tasks to Investigate

cognition implication in an Uncontrollability IT. This sub-section of Chapter 4, outlines how the information discussed and reviewed in this, and Chapters 1, 2 and 3, may be mapped onto one another to create a theoretical framework, within which to creatively explore the implicit components implicated in an Uncontrollability IT.

Individuals with cognitive distortions, frequently exhibit poor problem solving abilities meaning that aggressive solutions are often sought (e.g., Marshall & Barbaree, 1990). An inability to plan ahead: deficits in inhibition control (e.g., Marshall & Barbaree, 1990), and; not taking responsibility for one's own actions (e.g., Abel et al., 1984; Ward, 2000)—are thus variables implicated in much offending behaviour (see also, Farrington & Ttofi, 2012). Deficits of these same variables are also implicated in the success or failure of relapse prevention programs, as it relates to self-management skills (e.g., Pithers, 1990; Ward et al., 2006a). However, it must be noted that not all violence is the result of impaired self-regulation skills (e.g., Ward & Hudson, 2000; Ward et al., 2006a). Effective self-regulation strategies can be employed in the service of criminal acts and offending behaviour (see Ward & Hudson, 2000; Ward et al., 2006a).

In the context of this thesis, a deficit in the cognitive abilities outlined in the above paragraph, as we have seen in Chapter 2 (e.g., pp. 46, 54, 57) can be seen to more particularly map onto the description of an offender expressing an Uncontrollability IT, who believes that his or her "*Behaviour is directed mainly by powerful urges and emotions*", Ward et al., 2006a, p. 124). Equally, not all offenders exhibit learning and/or cognitive deficits, their criminal acts being quite rational, well-planed and often profitable (e.g., Ross, Fabiano, & Ewles, 1988: see also Ward et al., 2006a).

Nonetheless, the cognitive deficits described above, also appear to be those that are associated with a failure to acquire those cognitive capacities implicated in the acquisition of the skill of conservation: A deficit which, though speculative, has been linked to an insecure

attachment (Fonagy, 2004). As we have discussed earlier in this chapter, mastery of conservation is a necessary cognitive developmental milestone for enabling access to higher

Table 7. Inter-rater Reliability for FEATS/PPAT Compared Across Three Different Groups of Raters (from Williams et al., 1996)

Inter-rater Reliability Compared Across Three Different Groups of Raters

	Art Therapists	Recreation Therapists	Social Work Students
FEATS scales			
Prominence of Colour	.91	.96	.94
Colour Fit	.98	.95	.94
Actual Energy	.91	.88*	.90
Implied Energy	.93	.92	.89
Space	.95	.95	.98
Integration	.97	.95	.97
Logic	.96	.93	.96
Realism	.93	.98	.97
Problem-Solving	.95	.97	.97
Developmental Level	.88	.94	.91
Details of Objects & Environment	.94	.96	.98
Line Quality	.76	.93	.84
Person	.95	.94	.96
Rotation	.82	.74*	.82
Perseveration	.57	.74	.52

Note. * *Calculated on 9 pictures.*

level (executive) cognitive processing abilities (Piaget, 1967): Cognitive abilities which may be more indirectly and implicitly measured by Silver's (2002) Predictive Drawing Subtest and also by Gantt and Tabone's (1998) PPAT/FEATS drawing task.

Table 8. Inter-rater Reliability for FEATS/PPAT (Bucciarelli, 2011)

	Raters 1 & 2
FEATS Scale	
Prominence of Colour	.84**
Colour Fit	.83**
Implied Energy	.79*
Space	.94**
Integration	1.00**
Logic	1.00**
Realism	.76*
Problem-Solving	.94**
Developmental Level	.74*
Details of Objects & Environment	.79*
Line Quality	1.00**
Person	1.00**
Rotation	1.00**
Perseveration	.49

Note. $*p < .05, **p < .01$

Based upon all of the aforementioned, it would be expected that an individual expressing a belief about their inability to exert self-control, as indicated in an Uncontrollability IT, would receive a lower score in the PDT (Silver, 2002), when compared to individuals who express a belief in their ability to exert self-control. In addition, it would be anticipated that these same individuals would score lower on the FEATS/PPAT (e.g., Gantt & Tabone, 1998) drawing task: in areas related to integration, logic, reality, and problem solving. Additionally, as for those individuals expressing a high belief in a Dangerous World IT who it is hypothesized, would be characterised by a more insecure attachment style, those individuals expressing a belief in their inability to exert self-control, would also (in line with Fonagy's (2004) thinking), be expected to be more insecurely attached.

Table 9. Descriptive Statistics of FEATS Ratings for a Normative Sample (Bucciarelli, 2011)

	Min	Max	*M*	*SD*
FEATS Scale				
Prominence of Colour	1.5	5.0	3.14	0.83
Colour Fit	3.0	5.0	4.88	0.35
Implied Energy	2.5	5.0	3.34	0.54
Space	2.0	5.0	3.94	0.60
Integration	3.0	5.0	4.01	0.29
Logic	2.0	5.0	4.73	0.56
Realism	2.0	4.5	3.19	0.45
Problem-Solving	1.0	5.0	4.01	0.86
Developmental Level	2.5	5.0	3.68	0.57
Details of Objects & Environment	1.0	5.0	3.46	0.73
Line Quality	2.5	5.0	3.81	0.50
Person	2.0	5.0	4.12	0.56
Rotation	3.5	5.0	4.91	0.27
Perseveration	3.0	5.0	4.86	0.41

Combining imagery and visualization tasks with art therapy methodology to investigate ITs

We have seen in this chapter, how drawings informed by intra-psychic content, can can serve as a non-verbal means for investigating automatic (unconscious) thoughts (e.g., Silver, 2002, 2005). In Chapter 3 (p. 86), we discussed that an oft cited criticism of those more traditional, indirect methodologies employed to investigate forensic cognition, is that they lack priming ability (e.g., Gannon et al., 2006), and that tasks that are too far removed from reality to be able to tap into information processing biases (e.g., Keown et al., 2008). This last section takes a look at how combining drawing tasks with visualization imagery may afford an even deeper connection to unconscious cognition and information processing biases.

Based on findings from brain imaging studies, anticipation of sensory stimulation and internal imagery, appear to draw upon the same brain circuits as actual sensory stimulation or

external images (Ganis, Thompson, & Kosslyn, 2004; Hass-Cohen & Carr, 2008). Vivid and salient memories are said to be recorded as visual, sensory mental data (Pillemer, 1998), with the hippocampus being pivotal in accessing images related to personal explicit memories (Hass-Cohen & Carr, 2008). It has been suggested that because imagery mimics real-life perceptual events, it exerts an emotional effect (Conway, 2001). Although empirical evidence, supportive of the widespread clinical assumption that connects mental imagery and emotion, is somewhat lacking, it has been shown that imagery of aversive events is associated with greater anxiety, compared to encoding the same information verbally (Holmes & Matthews, 2005).

Cognitive behavioral therapy (CBT), makes use of working with vivid and salient memories, and a significant component of the work is translating the imagery associated with these memories, into words (Hass-Cohen & Carr, 2008). Art therapy takes this work one step further, with many art therapists combining visualization tasks related to salient memories and experiences, with drawing tasks (Hass-Cohen & Carr, 2008). This approach enables otherwise unobservable structural information to be transformed into measureable forms of experiences, for example, with the use of simple drawings: thereby providing concrete evidence of the internal content of these memories and experiences (Hass-Cohen & Carr, 2008). For example, when working with an offender, the opportunity to engage in exercises related to visualizing feelings and experiences, which the art-therapist or clinician, may believe to be implicated at the root of their offending cycle (e.g., early childhood trauma), and then to represent these feelings in the form of images: renders this previously unobservable structural content explicit, visible and therefore, available for discussion and reflection.

Making previously unconscious material conscious in the form of a picture, provides the opportunity to more objectively examine one's own conscious thoughts and feelings, enhancing the potential for promoting a more reflective and introspective (e.g., Nisbett &

Wilson, 1977) mode of thinking, with the ultimate goal of bringing about cognitive restructuring (e.g., Hass-Cohen & Carr, 2008). This approach also provides an opportunity for individuals to entertain different problem-solving strategies. In this way, art therapy tasks alone, or when successfully combined with visualisation, can be viewed as a consciousness-raising tool. Appendix VII provides a clinical example of how this approach was employed by the author of this thesis (an art psychotherapist) with a CSO. Therefore, it is argued that visualization techniques combined with drawing methodology tasks, may facilitate an even deeper connection to the unobservable unconscious content informing ITs.

In the case of individuals expressing a high belief in both a Dangerous World and an Uncontrollability IT, who would be expected to be more insecurely attached, it would be anticipated that in a visualization task, designed to focus on IWM content, that: they would report their visualization content and experiences to be more negative than for securely attached individuals.

As this chapter draws to a close, it is important to note that research in more mainstream domains of psychology, using drawing methodology has also uncovered interesting results. For example, a study by Mathews and Matlock (2011) demonstrated that the conceptual structure of the proximity of interpersonal relationships (e.g.., I feel close to/distant from him/her) revealed itself through the act of drawing (Mathews & Matlock, 2011). They suggested that if verbally conceptualizing friendship is related to thinking about spatial distance, then people should draw themselves closer to their friends. Results supported this hypothesis. Although, not identified as such by Mathews and Matlock (2011), it is suggested that what these researchers were most likely tapping into, by employing this methodology, were the IWMs these individuals held in relation to their friends.

In the search for an accurate, inexpensive lie detection tool that would prove quick and easy to implement, other research by Aldert Vrij and colleagues examined the use of drawings

as a lie detection aid. It was found that eighty percent of liars and truth tellers could be correctly classified when assessing drawings (Vrij et al., 2009). In focusing upon the merits of this assessment method Vrij et al. (2009) highlight the fact that drawing requires little input from the interviewer and drawings are therefore unlikely to be affected by an interviewer's expectations or actions. It was considered that the high accuracy rates of these research findings would be difficult to exceed by any traditional verbal, nonverbal or physiological lie detection tool (Vrij et al., 2009). It was suggested that forensic psychologists should be encouraged to carry out more drawing research (Vrij et al., 2010).

CONCLUSION

The purpose of this chapter was to argue that art therapy methodology is supremely suited for investigating the deeper cognition underpinning problematic ITs. Section one of this chapter began with an overview of the use of drawings as a non-verbal means of communication and assessment. In section two, the focus switched to a consideration of drawing tasks from the domain of art therapy, which have proven their utility in investigating constructs implicated in emotional functioning. Section three looked at drawing tasks for investigating intellectual functioning. Towards the end of section two and section three, the ways in which the information in the preceding three chapters could be mapped onto one another to create a theoretical framework within which to creatively explore the implicit components of both a Dangerous World and Uncontrollability IT, were outlined. Section four discussed how drawing and visualization tasks can be successfully combined to access unconscious content and was brought to a close, with a brief consideration of how drawing tasks have been successfully employed within mainstream psychology to investigate cognition.

Based upon all of the aforementioned, in the same way that beliefs, as communicated through verbal conceptual cognition, are accepted as the expression of the way a person

organizes his perceptions and cognitions (e.g., Lerner, 1980), it is argued in this thesis, that: artwork produced by an individual can be viewed as an even deeper and more authentic expression of how the self organizes internally, as well as in relationship with others (Mathews & Matlock, 2011; Vrij et al., 2009). Furthermore, though a tentative proposition at this stage, it is possible that SDT and FEATS like measures, may also tap into the deeper cognition (i.e., IWM content), implicated in the formation of problematic ITs. With this in mind, and in order to gather evidence constituting proof of this concept, the next four chapters explore the utility of a creative paradigm which aimed to investigate the more implicit, non-verbal, cognitive content implicated in both a Dangerous World and Uncontrollability IT.

CHAPTER 5

Preliminary and Pilot Studies for Exploring a

Dangerous World Implicit Theory

This chapter presents the first three studies of this thesis, comprising: two preliminary studies and one pilot study. These studies were conducted to: (1) create a questionnaire for measuring a dangerous world IT, and; (2) to ascertain inter-rater reliability for the emotional and self-image content scales (Silver, 2002) that we wished to employ for measuring cognitive content implicated in a Dangerous World IT. The findings of these studies demonstrated that the measurements we wished to use, are feasible and appropriate.

INTRODUCTION

The purpose of the research reported in this chapter is to investigate whether crucial components intended for use in the main studies, to measure a dangerous world IT (hereinafter referred to as a dangerous world belief: DWB) and for rating the emotional and self-image content (hereinafter, respectively referred to as EC and SI) are feasible measurements or require adjustment.

Current Research

For Study 1 (Preliminary Study 1), the aim was to create a definitive questionnaire of the ten best exemplars of a DWB from existing multiple scales employed to measure cognition descriptive of a belief in a dangerous world: The questionnaire thus serving as an explicit measurement of a DWB. Study 2 (Pilot Study 1), was conducted to ascertain internal consistency and scale reliability for the DWB questionnaire. Study 3 (Preliminary Study 2), was conducted to see if previous data (e.g., Silver, 2002) related to inter-rater reliability for the EC and SI scales, were replicable.

STUDY 1 (PRELIMINARY STUDY 1)

Method

Participants

Three judges, two lecturers in forensic psychology and one PhD researcher in forensic psychology took part in this study. Of this sample, 66.7% (*n* = 2) were female, and 33.3% (*n* = 1) male: mean age was (*M* = 39.66, *SD* = 11.015) years.

Materials

Existing multiple scales employed to measure cognition descriptive of a belief in a dangerous world, were collated by the researcher. From a number of scales, only two were found to have questions which were considered to meet this criteria: The Dangerous and Threatening Social World View Scale, Duckitt, Wagner, Du Plessis, and Birum (2002), and; The Competitive Jungle Social World View Scale, Duckitt, Wagner, Du Plessis, and Birum, (2002). Although designed primarily for use within research devoted to intergroup phenomena, theoretically, these two questionnaires are based upon the premise that worldviews represent belief structures about the nature of the social world (schemas, see Chapter 1, p. 29).

Therein, adopting the premise that there is no psychology of groups, which is not essentially a psychology of the individual (e.g., Allport, 1962), these questionnaires were considered suitable for this study. A review of the items within these multiple scales revealed an insufficient number to create a ten-item DWB questionnaire. Therefore, additional items were developed in accordance with definitions of a Dangerous World IT as outlined in peer-reviewed/primary papers (e.g., Gannon et al., 2007b; Polaschek, & Gannon, 2004; Ward, 2000; Ward & Keenan, 1999).

Procedure

Beginning with an initial list of twenty-two potential DWB items, judges independently examined each of the twenty-two DWB supportive items. Employing a five-staged elimination phased process, each item was consistently, and progressively coded (1 = yes/2 = no) according to whether or not judges felt the potential item was descriptive of a DWB. Those items coded (2) were removed from each phase, leaving ten remaining items considered to be the best exemplars of a DWB.

Results

As with all other statistical tests in this study, an alpha level of .05 was employed for this experiment. In order to test coder independence and agreement between the three coders, for the ten exemplars of a DWB, the Cohen's Kappa statistic was utilized. General consensus with the field of psychology states that a Kappa score of between 0.40 and 0.60 rates as moderate agreement, between 0.60 and 0.80 rates a good agreement, and; anything over 0.80 can be considered very good agreement (Wood, 2007). The kappa statistic was 0.63 indicating moderate agreement among raters. Table 10 provides a list of the eventual statements (and their source) considered by judges to be the best ten exemplars of a DWB.

Table 10. Dangerous World Belief Exemplar and Sources

1.	The world is full of dangerous and hostile individuals (a ,b, c, d)
2.	The world is a hostile place where I feel I must constantly be on guard (a ,b, c, d)
3.	I feel that others are always potentially out to exploit me (a ,b, c, d)
4.	The world today is a very unpredictable place (a ,b, c, d)
5.	Any day now chaos and anarchy could erupt around us. All the signs are pointing to it (e)
6.	There are many dangerous people in our society who will attack someone out of pure meanness, for no reason (e)
7.	If a person takes a few sensible precautions, nothing bad is likely to happen to him or her, we do not live in a dangerous world (e)
8.	My knowledge and experience tells me that the social world we live in is a basically safe, stable and secure place in which most people are fundamentally good (e)
9.	It seems that every year there are fewer and fewer truly respectable people and more and more people with no morals who threaten everyone else (e)
10.	It's a dog eat dog world where you have to be ruthless at times (e)

Note. Sources for the DWB scale are as follows a=Blake & Gannon, 2010; b=Gannon et al., 2007a; c=Gannon et al., 2007a; d=Polaschek, & Gannon, 2004; e= Duckitt et al., 2002.

DISCUSSION

The aim of Study 1 (Preliminary Study 1), to create a definitive questionnaire of the ten best exemplars of a DWB from existing multiple scales, descriptive of a belief in a dangerous world, was considered to have been met: with good overall inter-coder agreement also being reported for the ten DWB exemplars. Thus, the next step, the aim of Study 2 (Pilot Study 1), was conducted to ascertain internal consistency and scale reliability for the DWB questionnaire

STUDY 2 (PILOT STUDY 1)

Method

Participants

The sample for this study contained 80 adults ranging in ages from 18-37 years, the mean age was M= 20.03 (SD = 2.434). Of this sample (N = 73) 91% were located in the 18-21-year age range (N = 6), 7.7% were located in the 22-26-year age range, with (N = 1) 1.3% (aged 37 years), 66.3% (N = 53) were female and 33.8% (N = 27) male. All participants were recruited from the University of Kent, Canterbury. In the main, participants were recruited via the University of Kent's Research Participation Scheme (RPS): This is a credit-based system where psychology students are awarded credits in return for participation in research. In order to try and offset demand characteristics/concerns about reactivity and social desirability (e.g., Heiman, 2002) an effort was made to recruit students from other domains of study (i.e., economics and politics).

To this end, approximately 300 flyers advertising the study were randomly handed out to students in the various cafes/restaurants within the university. 'Flyer participants' were offered £5.00 in return for taking part. Psychology students therefore, made up 80% of the total sample with 20% from other domains of study. All recruitment initiatives clearly stated that

the content of the data collected for this study would remain anonymous. Participants were allotted timeslots either through the online RPS system or via the researcher by telephone booking.

Measures

Data was collected using the DWB questionnaire developed in Study 1. DWB was operationalized, by asking participants to indicate, for each exemplar, how much they agreed with the sentiments being expressed. Judgments were made on a 7-point Likert-type scale, higher values denoting a very high DWB: questions 7 & 8 were reverse scored. The average summed score of these ten questions was calculated to comprise a participants' overall DWB.

Procedure

Data collection took place in the labs at the Department of Psychology at the University of Kent. An information sheet (Appendix VIII) and consent form (Appendix IX) were administered to participants before completion of the DWB. All participants were explicitly informed, prior to commencing the questionnaire, of their right to withdraw participation at any time without any negative consequences. They were also informed of their right to withdraw their data from being used as part of this study subsequent to the study having taken place. Upon completion, participants were debriefed (Appendix X) and thanked for their participation.

Results

Principal Components Analyses

In conducting factor analysis, although larger samples (at least 300 cases, Tabachnick & Fidell, 2013) are desirable, five cases for each item to be submitted to this statistical procedure are said to be adequate in most cases (Tabachnick & Fidell, 2013). Thus, although on the

smaller side, the data set for this study was considered suitable for factor analysis. The ten

DWB items were submitted to a Principal Components analysis (PCA) using SPSS version 22.

Prior to performing PCA, the suitability of this data set for factor analysis was assessed. For a

data set to be suitable for factor analysis, it is recommended the Kaiser-Meyer-Olkin Measure

of Sampling Adequacy (KMO) value is .6 or above (Kaiser, 1970, 1974) and that the value for

Bartlett's Test of Sphericity is .05 or smaller (Bartlett, 1954). In this study, KMO was .859 and

Bartlett's Test of Sphericity was significant (χ_2 (45) = 284.007, p < .001). Inspection of the

correlation matrix revealed the presence of many coefficients of .3 and above. The factorability

of the correlation matrix was thus supported.

Principal components analysis revealed the presence of two components with

eigenvalues exceeding 1, explaining 43.57% and 12.62% of the variance respectively (see

Table 11). Question 1-10, with loadings of between <.4 to <.8 all load onto component 1.

Questions 1 and 6 are the only items that do not load onto component 2, with questions 4, 5

and 7 being the only questions with positive loadings (.223, .577 and .777 respectively). There

was a strong positive correlation between the two factors (r = .391). However, an inspection of

the screeplot (see Figure 2) revealed a break after the first component, suggesting a

unidimensional factor structure: Cattell (1966) recommends inspecting the plot to locate the

points at which the shape of the curve changes and retaining all all factors above this point.

To aid in the interpretation of this analysis, oblimin rotation was performed. The

pattern matrix demonstrated no clear pattern of strong item loadings on either component that

was suggestive of a two component solution. However, further inspection of the data revealed

that the highest loading items on component 1 were for questions 3, 9 and 2, all at > .8, followed

by questions 1, 5,6 and 10, all at > .5. For component 2 the highest loading items were for

questions 7 > .9, 8 > .7 and 4 > .3.

Referring back to the content of the questionnaire items for each component, what stands out is that the content of the two highest loading items for component 2 are the two reversed questionnaire items, that potentially encourage a less anxiety-provoking, more reflexive mode of thinking about the world and suggest that it is not that dangerous a place. In addition, item 4 for component 2 "The world today is a very unpredictable place" is also a more measured statement regarding the state of the world. Interpreted in this way, the DWB scale can be seen as unidimensional or single polar measure possibly reflecting participant responding along a continuum of high to low anxiety, as it relates to the degree of potentially threatening, anxiety provoking content of specific DWB questions[1]. The two component solution explained a total of 56.19% of the variance. Cronbach's alpha for the DWB questionnaire was .85, suggesting strong internal reliability for this scale.
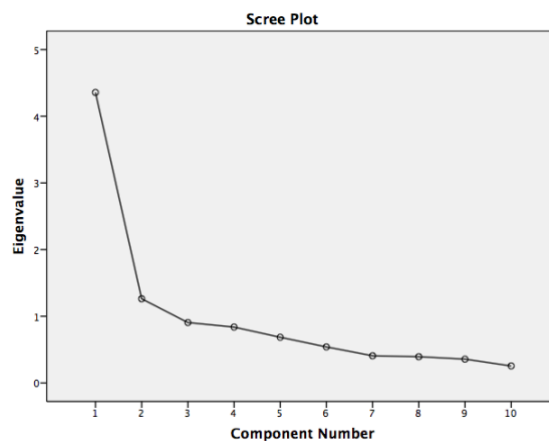
Figure 2. Screeplot for DWB scale

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[1] Because the DWB scale was interpreted as a single polar measure, subsequent analysis employed only the one factor.

Table 11: Results of the Principal Components Analysis Component Matrix showing the un-rotated loadings of each of the 10 items of the DWB scale on the two components

Item	Factor 1	Factor 2
Question 2: The world is a hostile place where I feel I must constantly be on guard	.82	-.19
Question 1: The world is full of dangerous and hostile individuals	.80	
Question 9: It seems that every year there are fewer and fewer truly respectable people and more and more people with no morals who threaten everyone else	.77	-.27
Question 3: I feel that others are always potentially out to exploit me	.73	-.34
Question 6: There are many dangerous people in our society who will attack someone out of pure meanness, for no reason	.70	
Question 5: Any day now chaos and anarchy could erupt around us. All the signs are pointing to it	.67	-.11
Question 8: My knowledge and experience tells me that the social world we live in is a basically safe, stable and secure place in which most people are fundamentally good	.61	.578
Question 10: It's a dog eat dog world where you have to be ruthless at times	.48	-.17
Question 4: The world today is a very unpredictable place	.44	.22
Question 7: If a person takes a few sensible precautions, nothing bad is likely to happen to him or her, we do not live in a dangerous world	.42	.78
Eigenvalues	4.36	
% of variance	43.57	

Table 12. Pattern Matrix for PCA with Oblimin Rotation of Two Factor Solution of DWB items

Item	Pattern coefficients	
	Component 1	Component 2
Question 3: I feel that others are always potentially out to exploit me	.86	-.15
Question 9: It seems that every year there are fewer and fewer truly respectable people and more and more people with no morals who threaten everyone else	.83	
Question 2: The world is a hostile place where I feel I must constantly be on guard	.83	
Question 1: The world is full of dangerous and hostile individuals	.74	.13
Question 5: Any day now chaos and anarchy could erupt around us. All the signs are pointing to it	.64	
Question 6: There are many dangerous people in our society who will attack someone out of pure meanness, for no reason	.54	.28
Question 10: It's a dog eat dog world where you have to be ruthless at times	.52	
Question 7: If a person takes a few sensible precautions, nothing bad is likely to happen to him or her, we do not live in a dangerous world	-.16	.94
Question 8: My knowledge and experience tells me that the social world we live in is a basically safe, stable and secure place in which most people are fundamentally good	.13	.78
Question 4: The world today is a very unpredictable place	.23	.36

DISCUSSION

With Cronbach's alpha for the DWB questionnaire, returning a result of .85, and suggesting strong internal reliability, and thus feasibility, for the DWB measurement we wished to use: the aims of Study 2 (Pilot Study 1) were considered to have been met. The final step, the aim of Study 3 (Preliminary Study 2), was to ascertain inter-rater reliability for the emotional and self-image content scales (Silver, 2002) that we wished to employ for measuring cognitive content implicated in a Dangerous World IT.

STUDY 3 (PRELIMINARY STUDY 2)

Method

Participants

Five judges ($N = 5$), took part in this study. Three judges were drawn from the University of Kent, Canterbury, two were lecturers, one a PhD student, the remaining two comprised a graduate in Film Studies from the University of Keele and a restaurateur. Of this sample, 60% ($N = 3$) were female, and 40% ($N = 2$) male: the mean age was ($N = 5$) $M = 32$ years ($SD = 12.73$).

Materials

A4 size photocopies of five previously scored drawings from Silver's Drawing Task (*SDT*: Silver, 2002, 2005) were used in this study. The scores given for previously scored drawings, were erased by the researcher so that judges were not influenced by these prior ratings.

The emotional content (hereinafter interchangeably referred to as EC) and self-image content (hereinafter interchangeably referred to as SI) scales used by judges to measure the content of the previously scored drawings, were replicated from Silver's (2005) 'Guidelines for Scoring the Emotional (Self-image) Content of Responses in Drawings from Imagination

Test' (Silver, 2002, 2005: Appendix III). Each scale was composed of a five point Likert-type scale, with: With an EC value of (5) denoting very positive emotional content, and an EC value of (1) denoting very negative emotional content. For self-image, an SI value of (5) denoted content indicative of a very powerful fantasy self-image and an SI value of (1) denoted content indicative of a self-image which was not powerful. In the context of this scale 'powerful' pertained to drawing content wherein the 'characters' in the drawings were depicted in scenes of either 'morbid fantasy' or 'wish-fulfilling fantasy': with the former the characters could range from being sad, helpless, isolated, suicidal, dead or in mortal danger (i.e., not powerful – value of 1); for the latter the characters could range from being happy, loved, admirable, intimidating, destructive, assaultive and achieving goals (i.e., very powerful – value of 5).

Procedure

Previous studies have provided evidence to support the fact that scorers do not need to be trained in areas such as art psychotherapy and/or psychology to be able to interpret and score the drawings (Silver, 2002, 2005). Each judge received either a group- based or a short one-on-one training session from the researcher using examples from previously scored SDT drawings to illustrate and explain the scoring procedure for both scales. After having had time to consider the drawings (up to one week depending upon individual schedules), judges independently rated each, indicating their interpretation of EC and SI content separately for each drawing. As with the Silver (2002, 2005) paradigm, judges were also asked to provide a brief explanation for their ratings.

Results

The statistic Intra-class Correlation Coefficient (ICC) was used in Silver's original study. The ICC is a useful measure for describing reliability and validity within a set of data

(Shrout & Fleiss, 1979). General consensus with the field of psychology states that an ICC > 0.90 reflects high agreement, between 0.75-0.90 moderate agreement, and < 0.75 reflects low agreement (Koch, 1982). The findings of the present pilot study indicated that correlations between scorers for both scales were significant: For EC, (*ICC* = .97, *p* < .001), and for SI (*ICC* = .81, *p* < .01). Thus the data from Study 2, demonstrated strong inter-rater reliability for both measurement scales.

DISCUSSION & CONCLUSION

It was considered that the aim of Study 1 (Preliminary Study 1), to create a questionnaire of the ten best exemplars of an explicit belief in a dangerous world, had been met. It was also decided that the aims of Study 2 (Pilot Study 1), to investigate internal consistency and scale reliability for the DWB questionnaire had been achieved. Finally, the aims of Study 3 (Preliminary Study 2), to ascertain inter-rater reliability for the EC and SI scales to be used in the first set of main studies were also felt to have been successfully achieved.

As discussed in Chapter 4 (pp. 111-113), it is argued that by employing art therapy methodology, we may potentially and more directly tap into cognitive content encoded within those more primitive, non-verbal modes of cognition associated with problematic ITs: in this case, a Dangerous World IT (Ward, 2000; Ward & Keenan, 1999), as measured by the DWB scale. Consequently, the studies conducted in this chapter have succeeded in moving us closer towards investigating, as hypothesized in Chapter 4 (p. 113), whether the emotional, and self-image information accessed by Silver's (2002) Drawing from Imagination Task, can be conceptualized as constituting the same underlying cognitive content implicated in an individual's IWMs. Therein, for the purposes of this thesis, the next exploration would be one that sought to discover evidence for this hypothesis: whether an individual explicitly expressing

an authentic belief (i.e., as opposed to an excuse or justification) in a Dangerous World IT (i.e., a higher score on the DWB scale), would also possess more negative EC and SI content (interpreted as being indicative of more negative IWMs). Furthermore, because of the link already suggested by Ward (2000), between the development of problematic ITs and insecure attachment, due to this shared association: one would also expect to find that a higher DWB belief and more negative IWM content, would be associated with a more insecure attachment style. In other words, the degree of relationship between emotional and self-image content, attachment and a DWB, if in the hypothesized direction, could be said to offer evidence of the convergent validity of the drawing task, and for IWMs to be central to an understanding of a Dangerous World IT. Ultimately then, evidence from these measurements in support of this conceptual overlap, could then, tentatively, support the use of art therapy methodology as a tool for tapping into the more implicit, non-verbal (i.e., more structural, e.g., Hollon & Kriss, 1984; Langton, 2007) level of cognition underpinning problematic ITs. Building upon the findings and discussion in this chapter, in order to gather evidence for this hypothesis and, ultimately, proof of concept, the next chapter discusses the first empirical study conducted to investigate this hypothesis.

CHAPTER 6

<u>Creatively Exploring the Implicit Component of a</u>

<u>Dangerous World Implicit Theory</u>

Following on from Studies 1, 2 and 3, discussed in Chapter 5, this chapter presents the first empirical study (Study 4) of this thesis that was conducted to investigate the relationship between: a belief in a Dangerous World IT, as measured by the DWB scale; the emotional and self-image content obtained by Silver's (2002) Drawing from Imagination Task, and; attachment style. Therein, the main goal of this study was to explore whether an individual expressing high belief in a Dangerous World IT (i.e., a higher score on the DWB scale), would also, as is suggested by the literature (i.e., Ward, 2000) be more insecurely attached and be rated with more negative emotional and self-image drawing. In order to gather evidence for this hypothesis and thus, proof of concept, Study 4 (N = 80) investigated whether the nature of participants' visualization, EC and SI drawing content and attachment style, predicted responses on a measure of a dangerous world (Ward & Keenan, 1999) implicit theory: the DWB scale developed in Study 2. In Study 4, results indicated that the nature of participants' visualization and the emotional and self-image content of their drawings predicted responses on a measure of a dangerous world (Ward & Keenan, 1999) implicit theory. Dangerous world beliefs and content indicative of more negative IWMs, were also associated with a more insecure attachment style.

INTRODUCTION

The purpose of the research reported in this chapter is to establish a potential link between the nature of participants' visualization content[1], the EC and SI content of their drawings (collectively conceptualized as being indicative of underlying IWM content), their attachment style and DWB. In other words, this research is investigating whether the degree of relationship between visualization content, EC, SI, attachment and a DWB, can be said to offer, evidence of the convergent validity of the drawing task, and for IWMs to be central to an understanding of problematic ITs. It was hypothesized that individuals expressing a high belief in a Dangerous World IT, as measured by the DWB scale, would be more insecurely attached and demonstrate more negative IWM content when compared to securely attached individuals.

STUDY 4

Method

Participants

Participants recruited from a UK University, comprised 80 adults ranging in age from 18-37 years, mean age $M = 20.03$ ($SD = 2.43$): of this sample, 66.3% ($n = 53$) were female and 33.8% ($n = 27$) male. The participants for this study were the same as those employed in Study 2 (Pilot Study 1, see p. 137). An a priori power analysis for multiple regression, indicated that a minimum of 76 participants were required in order to have 0.8 power for detecting a medium effect size when using three predictor variables and employing the traditional .05 criterion of statistical significance (Cohen, 1988). Participants were primarily recruited from the university's Research Participation Scheme (RPS) and received credits for taking part. Non-

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[1] As discussed in Chapter 4 (p. 129), vivid and salient memories are said to be recorded as visual, sensory mental data (Pillemer, 1998), and images: therein, because imagery mimics real-life perceptual events, it is said to exert an emotional effect (Conway, 2001); For this reason, a visualization task was included to connect participants more deeply to memories and emotions associated with their experiences of the world they live in.

RPS participants received £5.00. Participants were informed that data collection was anonymous and encouraged to retain their individual (uniquely coded) consent forms (Appendices VIII and IX), should they wish to withdraw data at a later stage. Upon completion of the study, anonymity of data collection was further emphasized, by directing participants towards a 'post-box' in which to drop completed data packs to further reassure them that content was not being matched to participant identity. It was also acknowledged that the visualization task might bring some participants into contact with uncomfortable/negative memories. Hence, the debrief form (Appendix X) contained contact numbers such as the university's counselling service. The researcher was also attentive to any obvious before and after observable changes in the emotional well-being of participants. Where appropriate, the researcher took time out with specific participants who wished to discuss their feelings.

The five judges ($N = 5$), used to rate the emotional and self-image content of participants' drawings, were the same judges employed for Study 3 (Preliminary Study 2, p. 143). To recap, three judges were drawn from the University of Kent, Canterbury, two were lecturers, one a PhD student, the remaining two comprised a graduate in Film Studies from the University of Keele and a restaurateur. Of this sample, 60% ($N = 3$) were female, and 40% ($N = 2$) male: the mean age was $M = 32$ years ($SD = 12.73$).

Ethical approval and consent

The study was conducted according to the Code of Ethics of the British Psychological Society, and was granted ethical approval (Ethics code 201132684) by the university's Psychology Research Ethics Panel. Participants were informed in writing (on the information sheet, see Appendix VIII) that they were free to withdraw from the study at any stage without repercussions.

Design, Materials and Measurements

A repeated measures design was employed.

Visualization task. A visualization (for transcript, see Appendix XI) was created in order to connect participants to those experiences that have helped to shape their perceptions of the self, others, and the world they live in. In the visualization, pre-recorded audio instructions invited participants to use their imagination and focus upon either *childhood, teenage,* or *recent* experiences. Visualization instructions were carefully designed to be neutral. The premise was that if more negative IWMs underlie insecure attachment—when invited to connect with those memories during the visualization—insecurely attached individuals would experience more negative content, compared to securely attached individuals. In this way, the visualization task was designed to act as a self-priming task (e.g., Koole & Coenen, 2007). In Chapter 1 (p. 29), we discussed how deeper structural cognitive content, formed from unconscious memories, is "encoded physiologically in body-tissues" and becomes "expressed through physiological discomforts, escalations or minimizations of affect, and the transferences that occur in everyday life" (Erskine, 2010, p.2). With this in mind, in order to encourage deeper sensory/embodied, levels of cognitive processing, participants were invited to bring to mind associated scenes, smells, sounds, seasons, and/or temperatures. In addition to anonymity, assurance was given in the actual visualization (Appendix XI), that specific visualization details were not being investigated.

Drawing task. For the drawing part of the task, which followed the visualization in order to inspire participants' imagination to create their own drawings, thirty-five pre-drawn, neutral stimulus response drawings (Silver, 2002) were provided to participants (pack A − see Appendix II). The pre-drawn images included, humans (e.g., boy, king, man, girl, princess, woman); animals and insects (e.g., fish, lion, cat, dog, snake, spider, mouse); objects etc. (e.g., fridge, tree, bag, neck-tie, knife, wellington-boots, castle, gun, bicycle, handbag, kitchen, ice-cream soda; see Silver, 2002). Participant drawing data was recorded on individual sheets of

white A4 sheets of drawing card (pack B) and participants were provided with a set of colouring pencils, and a pencil sharpener.

Judges rated the emotional content (EC) and self-image content (SI), of participant drawings using the five-item EC and SI scales developed by Silver (2002) and tested in Study 3. In the current study, as with all studies reported in this thesis, to avoid scorers being influenced by information in other participant data, all drawings were detached from data packs and rated in isolation.

Dangerous World IT: To measure participant belief in a Dangerous World IT, the DWB questionnaire developed in Studies 1 and 2, was employed. DWB was operationalized, by asking participants to indicate, for each exemplar, how much they agreed with the sentiments being expressed. Judgments were made on a 7-point Likert-type scale, higher values denoting a very high DWB: questions 7 & 8 were reverse scored. The mean of these ten questions was calculated to comprise a participants' overall DWB. Cronbach's alpha for the DWB questionnaire was .85, suggesting strong internal reliability for this scale.

Attachment style. As well as investigating responding patterns between insecure/secure attachment, due to the differentiation associated within insecure attachment (e.g., Donahue et al., 1993), we were interested to see if responding patterns within insecure attachment styles varied in a meaningful way. Participant attachment style was evaluated using Bartholomew's Relationship Questionnaire (Griffin & Bartholomew, 1994). Moderate reliability has been found for the Relationship Questionnaire (kappas of around .35 and test-retest reliability coefficients of around .50 (Scharfe & Bartholomew, 1994). Two variables were thus created. For variable one, within-attachment style was coded as a (four-category) categorical variable: dismissing = 1, ambivalent = 2, fearful = 3 and secure = 4. For variable two, insecure (i.e., dismissing, ambivalent and fearful) attachment was collapsed into one

category, and a new dichotomous secure/insecure attachment variable computed (e.g., Kirkpatrick & Shaver, 1992).

Content of Visualization experience. To ascertain the nature of the content (but not the details) of visualization experiences, participants were asked: 'On the whole, were the images that came into your mind during the visualization exercise (please tick one choice only): positive, mixed or negative?' Each category was awarded a value (1 = positive, 2 = mixed, 3 = negative), the variable was coded as ordinal.

Drawing inspired by visualization. Although visualization instructions did not suggest the drawing should be inspired by the visualization, it was anticipated that this would be the case (i.e., that intra-psychic content would be projected onto drawings). However, rather than simply infer that visualization feelings and images were projected onto drawings, and to gather support for the visualization/drawing methodology, participants were asked: 'Were your drawings inspired by the images and feelings in the visualization exercise'? Responses were coded yes = 1 and no = 2 and treated as a categorical variable.

Developmental stage of visualization. To ascertain what developmental stage formed the focus of the visualization, and gauge effectiveness of the visualization to connect participants to past memories, participants were asked: 'Were the experiences you brought to memory in the visualization mainly from: Please tick as appropriate; (a) childhood, (b) teenage years, or (c) current/recent'. This was treated as a categorical variable.

Previous art experience. To investigate if previous art experience impacted upon EC and SI ratings, participants were asked, 'Do you have any previous art experience?' and responded on a 7-point Likert-type scale, with higher values denoting that participants had a lot of previous art experience.

What the study was about. To rule out the presence of demand characteristics (i.e., guessing what the study was about) at the end, participants were asked to write down what they thought the study was about.

Procedure

The study was conducted in a lab, with up to five participants at a time in individual cubicles. Each cubicle contained a set of three (uniquely coded) participant packs, turned face down, labelled pack A (Stimulus Response Drawings), pack B (drawing paper), and pack C (questionnaires), a pair of headphones, a set of 12 colouring pencils, and a sharpener. After completing demographic information, the researcher invited participants to begin the study, by pressing the 'start' key on the computer key-board: This took participants into the visualization part of the task which lasted for approximately five-minutes. At the end of the visualization, participants were asked to open their eyes (if closed).

The drawing task was operationalized by asking participants to browse through the stimulus response drawings (pack A) and focus upon those that caught their attention, choosing at least one female and one male character. After three minutes browsing time, participants were instructed to turn over pack B (drawing card) and, inspired by the stimulus response drawing characters/objects they had chosen, to imagine something happening between the characters/objects. Thereafter, participants had ten minutes to create a drawing, telling a story in pictures about what was happening, and to finish by giving the drawing a title. Participants were assured drawing skill was not being judged, and encouraged not to copy the stimulus response drawings, just be inspired. To prevent alterations of drawings, erasers were not provided2. One minute before the ten minutes was up, participants were asked to bring drawings to a finish, provide a title, and complete the questionnaires (pack C) in the order of

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2 Regardless of anonymity, in the drawing part of the study, it was thought some participants might realize the aim of the study and become aware of perhaps, having inadvertently 'exposed' themselves— for example, a drawing with a very violent image, wherein a participant might be the perpetrator

their presentation (DWB, attachment, content of visualization, drawing inspired by visualization, stage of development, previous art experience, and what do you think this study was about?). As previously mentioned, a box for depositing data into was provided, to reinforce anonymity. Where appropriate, the researcher took time out with participants who wished to discuss the study.

Results

Main analysis

Descriptive Data. For the current study, descriptive statistics for main variables of interest are provided in Table (13). An alpha level of .05 was employed for all data analysis. All effect sizes were interpreted against Cohen's (1988) rules of thumb.

Demographic variables. There were no significant gender differences on any of the main variables.

Attachment. Six participants did not complete the attachment questionnaire[3], of those who did, 14.9% ($n = 11$), of this sample were rated as dismissing, 17.6% ($n = 13$) ambivalent, 27% ($n = 20$) fearful, and 40.5% ($n = 30$) as secure. Therefore, 59.5% of this sample were rated as having an insecure attachment style.

Dangerous World Belief (DWB). Mean DWB ($N = 80$) was $M = 4.05$ ($SD = 1.03$). A Shapiro-Wilk's (Shapiro & Wilk, 1965) test ($p > .05$) and visual inspection of the histogram, normal Q-Q plots and box plots showed DWB scores were approximately normally distributed, with an acceptable skewness of -.12 (SE = .27) and a kurtosis of 0.63 (SE = .53; Cramer, 1946). A one-way between groups ANOVA was conducted to explore the effect of (four category) attachment style on DWB. There was a statistically significant difference at the $p < .05$ level in DWB scores for the four attachment types [$F(3,70) = 5.25$; $p = .003$]. The effect size (.18),

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[3] Because participants were invited to deposit their completed data packs into a 'post-box' at the end of the study to reinforce anonymity, it was not possible to check whilst participants were still in the room, that this question had been completed.

using eta$_2$, was large. Post-hoc comparisons using the Bonferroni test, with adjusted alpha levels of .0125 per test (.05/4), indicated the mean DWB score for: fearful $M = 4.73$ ($SD = .80$) was significantly ($p < .002$) higher when compared to secure $M = 3.69$ *(SD = 1.04)*, and ambivalent ($p < .027$) $M = 3.72$ ($SD = .85$). There were no significant differences for dismissing $M = 3.91$ ($SD = 1.10$) when compared with either fearful, secure or ambivalent (see Figure 3).

Table 13. Means, Standard Deviations, Frequencies and ranges of Major Variables for Study 4

Variable	Mean	SD	Frequencies
DWB (7-point scale, 1-7)	4.05	1.03	-
EC (5-item scale, 1-5)	3.30	1.32	-
SI (5-item scale, 1-5)	3.21	1.38	-
Attachment			
Insecure	-	-	59.5% (*N*=44)
Secure	-	-	40.5% (*N*=30)
Dismissing	-	-	14.9% (*N*=11)
Ambivalent	-	-	17.6% (*N*=13)
Fearful	-	-	27.0% (*N*=20)
Visualization			
Imagery (3-item scale, 1-3)			
Positive (1)	-	-	34.6% (*N*=27)
Neutral (2)	-	-	41.0% (*N*=32)
Negative (3)	-	-	24.4% (*N*=19)
Drawing imagery inspired by visualization			
Yes	-	-	72.0% (*N*=54)
No	-	-	28.0% (*N*=21)
Visualization memories (3-item scale)			
Childhood	-	-	37.2% (*N*=29)
Teenage	-	-	42.3% (*N*=33)
Current	-	-	20.5% (*N*=16)
Gender			
Female			66.3% (*N*=53)
Male			33.8% (*N*=27)

Emotional content (EC). The mean score for EC ($N = 80$), was $M = 3.30$ ($SD = 1.32$). The Pearson correlation coefficient demonstrated a significant negative correlation between EC and DWB; $r(80) = -.32$; $p = .003$ (a medium effect size). This meant that higher dangerous world beliefs were associated with less positive EC. Further exploration of mean EC within four-category attachment, indicated the mean score for ambivalent $M = 3.54$ (*S.D.*=1.13) and secure $M = 3.50$ (*S.D.* = 1.25) attachment styles, to be associated with the most positive EC, followed by fearful M=3.00 (*S.D.*=1.17), and dismissing $M = 2.73$ *(S.D.* = 1.74) attachment. However, a one-way between-groups ANOVA [$F(3,70) = 1.33$; $p = .269$], revealed this difference to be non-significant.

Self-image (SI). The mean score for SI ($N = 80$) was $M = 3.21$ ($SD = 1.39$). The Pearson correlation coefficient demonstrated a significant negative correlation between SI and DWB: $r(80) = -.30$; $p = .008$ (a medium effect size). EC and SI were highly correlated: $r(80) = .83$, $p = .001$). As for EC, exploration of mean SI within four-category attachment indicated secure $M = 3.40$ (*S.D.* = 1.38) and ambivalent $M = 3.38$ (*S.D* .= 1.33) attachment styles, to be rated with the most powerful SI, followed by fearful $M = 2.85$ (*S.D.* = 1.23), and dismissing $M = 2.82$ *(S.D.* = 1.67) attachment styles. However, a one-way between-groups ANOVA [$F(3,70) = .98$; $p = .405$], revealed this difference to be non-significant.

Content of Visualization experience. There were two missing values for visualization content. Of this sample, 34.6% ($n = 27$) described the content of their visualization as positive, 41.0% ($n = 32$) as mixed and 24.4% ($n = 19$) as negative. A one-way between groups ANOVA showed there was a significant effect of visualization content on DWB, [$F(2,75) = 5.29$; $p = .007$], the effect size (.12) using eta2 was moderate. Post-hoc comparisons using
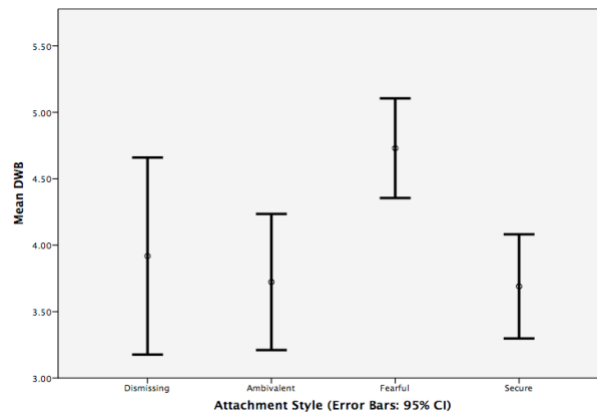
Figure 3. Distribution of Four-category Attachment within DWB

the Bonferroni test, with adjusted alpha levels of .0166 (0.5/3), indicated the mean DWB score

$M = 3.60$ ($SD = .80$), for those participants reporting positive content was significantly lower

compared with the mean DWB score for mixed ($p < .008$) $M = 4.29$ ($SD = 1.09$), and negative

content ($p < .005$) $M = 4.43$ ($SD = .97$). The mean DWB score for mixed versus negative

visualization content was not significantly different.

The impact of visualization content on EC was investigated using a one-way between

groups ANOVA, and returned a significant result [$F(2,75) = 3.35$; $p = .040$], the effect size

using eta2 (.08), was moderate. Post-hoc comparisons using the Bonferroni test (with adjusted

alpha levels of 0.166) returned results, which whilst indicating that the mean EC score $M =$

3.81 ($SD = .71$), for participants reporting positive content was higher when compared to

mixed $M = 3.03$ ($SD = 1.38$), and negative $M = 3.00$ ($SD = 1.45$) content, was not significant:

Albeit, that the mean difference between positive and mixed visualization approached ($p <$

.069) the threshold for significance.

The effect of visualization content upon SI was investigated by employing a one-way

between groups ANOVA. This analysis returned a result that was marginally higher than the

acceptable threshold for significance, [$F(2,75) = 3.05$; $p = .053$, $= .08$], with eta2 (.07), revealing

a moderate effect size. Post-hoc comparisons using the Bonferroni test (with adjusted alpha

levels of 0.166) indicated a result just above the significance threshold ($p. <. 055$) indicating the mean SI score $M = 3.67$ ($SD = 1.14$), for those participants reporting positive content was lower compared to those reporting negative images $M = 2.68$ ($SD = 1.38$).

The relationship between visualization content and insecure/secure attachment was investigated using a Chi-square test for independence. There was a statistically significant ($p = .001$) result, χ_2 (2, $n = 72$) $= 14.19$, $p = .001$, $phi = .44$, suggesting that more positive visualization content (62.1%, $n = 18$) was associated with a more secure attachment (see Table 14). Due to low frequencies, further investigation exploration of four-category attachment within visualization content was not possible. However, an inspection of the frequency distribution data within four-category attachment revealed secure attachment, as above, reported the most positive visualization experience (62.1%, $n = 18$), followed by ambivalent (30.8%, $n = 4$) and fearful (15.0%, $n = 3$), with dismissing attachment (9.1%, $n = 1$) reporting the least positive visualization experience. For negative visualization experience, secure reported the least (13.8%, $n = 4$) negative content, followed by dismissing (18.2%, $n = 2$), ambivalent (30.8%, $n = 4$), and fearful (30.0%, $n = 6$) attachment.

Table 14. Distribution of visualization content within insecure/secure attachment shown as Percentages for Study 4

	VIS-positive %	VIS-Mixed %	VIS-Negative %
Attachment Style			
Insecure	18.6 (*N*=8)	53.5 (*N*=23)	27.9 (*N*=12)
Secure	62.1 (*N*=18)	24.1 (*N*=7)	13.8 (*N*=4)

Predicting a Dangerous World Belief (DWB). In order to assess whether the predictor variables, EC/SI,[4] attachment (two-category secure/insecure), and visualization content had unique relationships with the outcome variable of DWB, simple linear multiple regression analyses were conducted after testing for the assumptions of multiple regression (e.g., Field, 2013). Since we wished to use the two-category (binary) secure/insecure attachment variable as a predictor in the regression model, it was necessary to firstly recode this variable into a set of separate binary variables (i.e., dummy coding). Using the recode into different variables function in SPSS, Set 1 'Secure', represented the presence of the qualitative attribute of a secure attachment. Secure was coded 1 and insecure coded 0. Set 2 'Insecure' represented the presence of the qualitative attribute of an insecure attachment (Insecure was coded 2 and secure coded

An analysis of standard residuals was carried out, which showed that the data contained no outliers (Std. Residual Min = -2.54, Std. Residual Max = 2.01). Tests to see if the data met the assumption of collinearity indicated that multicollinearity was not a concern (EC/SI, Tolerance = .90, VIF = 1.104; insecure attachment, Tolerance = .85, VIF = 1.16, secure attachment, Tolerance = .85, VIF = 1.16, visualization content, Tolerance = .79, VIF = 1.25). The data met the assumption of independent errors (Durbin-Watson value = 2.26). The histogram of standardized residuals indicated that the data contained approximately normally distributed errors, as did the normal P-P plot of standardized residuals, which showed that the majority of points were on the line. The scatterplot of standardized residuals showed that the data met the assumptions of homogeneity of variance and linearity. The data also met the assumption of non-zero variances (DWB, Variance = 1.05; EC/SI, Variance = 6.65; secure attachment, Variance = .24, insecure attachment, Variance = .97, and; visualization content, Variance = .58).

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[4] Because EC and SI were highly positively correlated (see p. 156), a new combined EC/SI variable was computed for the regression analysis carried out for Study 4.

Using the enter method, it was found that EC/SI, insecure attachment and visualization content, explained a significant amount of the variance in DWB scores, $F(3,68) = 5.08$, $p = .003$, $R_2 = .18$, $R_{2\ Adjusted} = .15$. Closer analysis showed that although the overall model returned a significant result, EC/SI ($\beta = -.26$, $p = .029$) was the only significant predictor (insecure: $\beta = .15$, $p = .198$; visualization content: $\beta = .18$, $p = .146$). The overall model fit was $R_2 = .18$, $p = .003$ a small effect size, explaining just over 18% of the variance in DWB responding. This analysis demonstrates that a higher DWB was significantly predicted by less positive EC and less powerful SI.

Additional analyses

Drawing inspired by visualization. There were five missing values for drawing inspired by visualization however, the majority of participants (72%, $n = 54$) reported that visualization content had been projected onto subsequent drawings, with 28%, ($n = 21$) reporting 'no'. Further analysis within four-category attachment revealed that 80% ($n = 8$) of dismissing attachment agreed that visualization content had been projected onto subsequent drawings, followed by secure (75%, $n = 21$), fearful (68.4%, $n = 13$), and ambivalent (66.7%, $n = 8$) attachment.

Developmental stage of visualization. There were two missing values for stage of development, of those who responded 42.3% ($n = 33$) stated their memories focused on *teenage*; 37.0% ($n = 29$) on *childhood*, 20.5% ($n = 16$) *current/recent* events. Therefore, during the visualization, approximately 80% of participants focused on past memories.

Previous art experience. There was one missing value for previous art experience, the mean score was ($N = 79$), $M = 3.00$ ($SD = 1.75$), indicating that on average, participants did not have a lot of art experience. Regardless of experience, all participants took part in the drawing task, thus there was 100% engagement with the drawing task. Using Pearson correlation we investigated whether drawing ability affected EC and SI scoring. These

correlations ($r(79) = .13$; $p = .262$, and $r(79) = .12$; $p = .286$, respectively), were non-significant, meaning drawing ability had no effect on ratings.

Purpose of study. For this question, *31% ($N = 25$)* of participants provided feedback. In the main, participants correctly thought the study was investigating something to do with imagination and creativity, but appeared not to make specific connections with the study aims. Examples of comments included, *'Creativity and how the mind works', 'Made me think of past and future'* and *'Very interesting, brought up a lot of memories'*.

Discussion

The study reported in this chapter investigated whether the degree of relationship between visualization content, EC, SI (collectively conceptualized as being indicative of underlying IWM content), attachment and a DWB, can be said to offer, evidence of the convergent validity of the drawing task, therein: for IWMs to be central to an understanding of problematic ITs. With this in mind, it was hypothesized that individuals expressing a high belief in a Dangerous World IT, as measured by the DWB scale, would be more insecurely attached and demonstrate more negative IWM content when compared to securely attached individuals: Evidence for this hypothesis thus serving, not only to gather more information related to problematic ITs, but also as proof of concept to support the use of art therapy methodology as a tool for tapping into the more implicit, non-verbal (i.e., more structural, e.g., Hollon & Kriss, 1984; Langton, 2007) level of cognition underpinning problematic ITs: in this case, a Dangerous World IT

This study has provided evidence to show that objective evaluation of emotional drawing (EC) content and self-image (SI) drawing content, were significantly and negatively correlated ($p = .003$ and $p = .008$, respectively) with DWB responding. In other words, a higher DWB score was associated with less positive emotional drawing content and with less powerful

self-image drawing content. Evidence has also been returned to demonstrate that the nature of participants' visualization content had a significant ($p < .007$) effect upon DWB responding, so that a higher DWB score was linked to less positive visualization content. More negative visualization content was also associated with more negative EC and less powerful SI drawing content.

Results also demonstrated a significant effect of insecure/secure attachment style upon DWB responding, such that a more insecure attachment style was significantly ($p = .003$) linked to a higher DWB. In addition, a simple linear multiple regression calculated to predict DWB based on EC/SI, visualization content and insecure/secure attachment, returned a significant ($p = .003$) result, predicting 18% of variance in DWB: albeit a small effect size, this is an encouraging finding, suggesting that the emotional and self-image content of simple drawing tasks may be used to predict a higher belief in a DWB.

Overall then, the degree of relationship between visualization content, EC, SI, attachment and a DWB, can thus be said to offer, evidence of the convergent validity of the drawing task, and for IWMs to be central to an understanding of problematic ITs. Hence, in the main, the hypotheses of this study have been supported.

Judges' ratings of emotional and self-image drawing content, were unaffected by participant level of art experience. Additionally, the majority of participants (72%, $n = 54$) reported that visualization content had been projected onto their subsequent drawings, thus supporting, as suggested in the literature (e.g., Hass-Cohen & Carr, 2008, see Chapter 4, pp. 128-129), the utility of the combined visualization/drawing task to tap into intra-psychic content. During the visualization, 80% ($n = 61$) of participants focused upon past memories. This last finding may be taken as tentative evidence that the visualization task connected participants to past memories. Based upon this above evidence, it is suggested that, facilitated

by the visualization, EC and SI may be taken to constitute the transformation of IWM content into visible and measurable forms of experience in the form of simple drawings.

Consistent with the attachment literature (e.g., Bartholomew, 1990; Mikulincer & Shaver, 2007), the sample for this (non-forensic) study contained more secure (40.5%, $n = 30$) and fearful (27%, $n = 20$) individuals than preoccupied (17.6%, $n = 13$) and dismissing (14.9%, $n = 11$). Compared to insecure, secure attachment scored a lower mean DWB. Within insecure attachment, fearful demonstrated the highest mean DWB, followed by dismissing and ambivalent. Thus, although a higher DWB appeared to be underpinned by insecure attachment, this would seem to be driven by individuals with fearful attachment, another finding which appears to be consistent with the literature since, according to Fraley and Shaver (1997), fearfully attached individuals are less able to suppress thoughts/feelings.

The current study was not designed to investigate the presence of defensive exclusions (Bowlby, 1969/1982): discussed in Chapter 1 (pp. 25-27), however, it may be that the difference in DWB responding, emotional and self-image drawing content, together with the nature of participants' visualization content, may be explained by the presence or activation of these constructs in line with the different attachment styles. It was also interesting to note that only 18.2 % ($n = 2$) of dismissing participants, 80% ($n = 8$) of whom agreed that visualization content had been projected onto subsequent drawings, reported their visualization as negative. However, judges rated drawings by dismissing participants, as containing the most negative emotional and least powerful self-image content. If insecure attachment is more prevalent in forensic populations, the difference in forensic and non-forensic cognition witnessed by researchers (e.g., Blake & Gannon, 2010; Keown & Gannon 2008) may be due to variability in the flexibility, adaptiveness, and intensity of these mechanisms, in insecurely attached individuals compared to securely attached individuals.

The study in this chapter did not include a 'no-visualization condition' (i.e., a drawing-only condition). It may transpire that judges' ratings of EC and SI drawing data for a drawing-only condition would yield the same quality of drawing content/degree of relationship with main variables of interest, as for a combined visualization/drawing condition. However, the research related to the effectiveness of visualization techniques to connect individuals to deeper levels of cognition (e.g., Hass-Cohen & Carr, 2008; Liebmann, 2001; Conway, 2001), would seem to suggest otherwise.

Additionally, when rating SI, judges commented that due to ambiguous titles/lack of personal-pronoun use (e.g., Figures 5 and 6), many drawings were rated 'ambiguous'. For example, when rating participant drawings, raters did not presume that a drawing depicting a female victim/male perpetrator scenario, by a female participant meant that the female participant was necessarily identifying with the female character in the drawing (e.g., Figure 6); the reverse also applying to male participants.

Equally, without a more informative title, a participant could be identifying with any one of a number of images, with different implications for SI rating. For example, in Figure 5, is the participant identifying with the boat, the lion, or the king? Whereas the personal pronoun 'my' in Figure 4 would seem to identify the participant with the perpetrator. On the other hand, regardless of level of identification, the EC of Figures 4 and 6 is not ambiguous, depicting negative themes. This is an interesting area of discussion to debate, since in Chapter 4 (pp. 108-109) we saw that research by Silver and Ellison (1995) reported that, although discussion with respondents about their drawings in relation to rating SI, is preferable— it is not necessary (Silver & Ellison, 1995). However, it may also be that rating of SI without participant involvement (e.g., to indicate level of identification in some manner), unlike EC, is not so straight-forward and potentially, scientifically invalid. Therefore, this issue is an additional limitation.
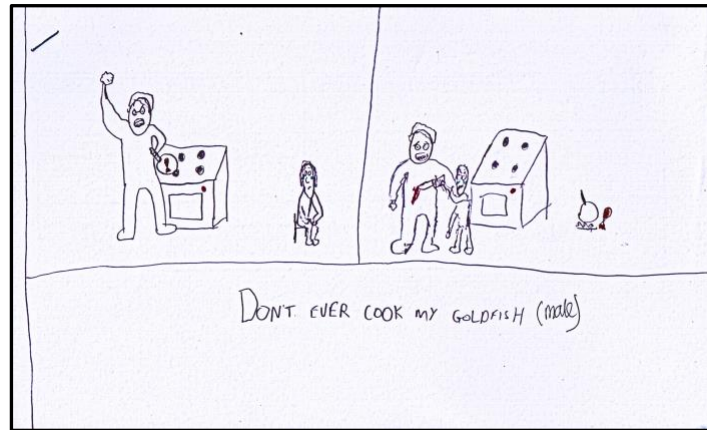
Figure 4. 'Don't ever cook my goldfish': male; DWB=4.2; EC=1; SI=5;
attachment=dismissing.
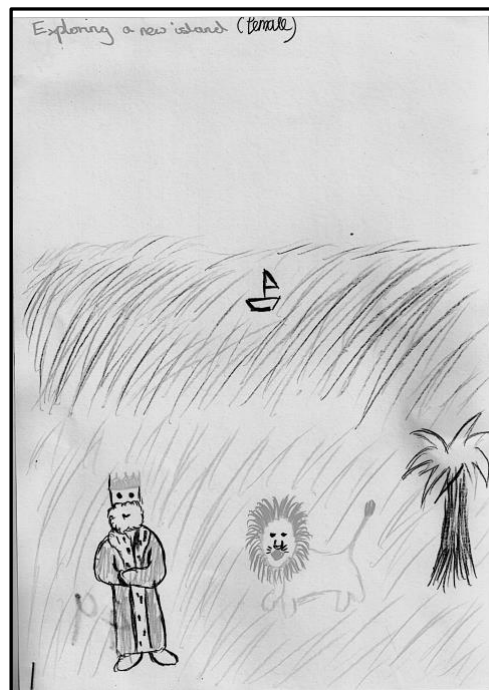
Figure 5. 'Exploring a new island'.
(female, DWB=2.5, EC=4, SI=3, attachment=secure).
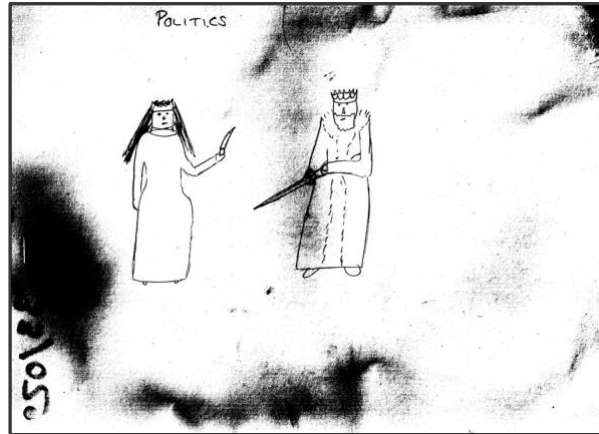
Figure 6. 'Politics':
(female, DWB=6.0, EC=1, SI=3, attachment=missing)

CONCLUSION

Following the results of Study 4, the next step is to explore whether by asking participants to indicate (at the end of the study), which character in their drawing, they most closely identify with, will improve the ability of judges to be more confident in their SI ratings. In addition, it may be that another version of the EC and SI scales (see Silver, 2005) which further sub-divides the mid-value (3) on each scale, may improve ratings on both the EC and SI scales. Since Study 4 did not include a 'no-visualization condition' (i.e., a drawing-only condition), the next set of studies (Studies 5 and 6), were designed to investigate whether a drawing-only condition would yield the same quality of drawing content/degree of relationship with main variables of interest, as for a combined visualization-drawing condition.

It was also of interest in the next study to explore whether participant level of anxiety pre and post the visualization/drawing task impacted meaningfully upon results. In particular, whether, as suggested by the attachment literature, higher levels of anxiety are associated with insecure attachment (e.g., Ainsworth, 1978; Bowlby, 1969, 1973, 1988; Ciechanowski et al., 2002, b, 2003; George & West, 2012; Mikulincer & Shaver, 2007). For example, social anxiety, which refers to anxiety occurring in relation to social situations (e.g., Davila & Beck,

2002), has been found to be higher amongst insecurely attached individuals (Read et al., 2018).

Specific to the paradigm discussed in this chapter, it may be that asking participants to visualize themselves in social situations related to those experiences that have helped to shape perceptions of the self, others and the world they live in (e.g., visualization task, p. 150), may (if as suggested by the literature (e.g., Bowlby, 1988), insecure attachment is underpinned by more negative IWM content): trigger more anxiety amongst insecurely attached participants, compared to secure attachment. If this hypothesis is correct, then this may also indicate the ways in which simple tasks such as the visualization in this chapter, can potentially impact upon participant responding by raising anxiety levels. Therein, this evidence would further support the suggestion that controlling for attachment when investigating forensic cognition, may help to explain previously confusing and or confounding (e.g., Keown & Gannon, 2008; Keown et al., 2008) findings. Furthermore, if this hypothesis were supported, namely that anxiety levels changed in accordance with the content of participant visualization experience, then indirectly, this could also provide evidence: (1) to suggest that a good level of participant engagement was present during the study, and; (2) that the visualization task, in itself was effective in tapping into cognitive content not in immediate awareness, prior to the visualization task.

CHAPTER 7

<u>Once Again, Creatively Exploring the Implicit Component of a Dangerous World Implicit Theory</u>

Following on from Study 4, this chapter presents the next empirical Studies of this thesis: Studies 5 and 6, both of which employed the same (N = 98) participants, with Study 6 being conducted 7 - 10 days after Study 5. In keeping with Study 4, these studies were conducted to investigate the implicit component of a Dangerous World IT and to explore several questions that arose as a result of Study 4. This chapter looks at: (1) whether omission of a visualization task (Study 5) impacted upon results in a meaningful way; (2) whether insecurely attached participants reported higher levels of anxiety, pre and post the drawing-only task condition (Study 5) and pre and post the combined visualization-drawing task condition (Study 6) compared to securely attached participants; (3) if scoring of SI drawing content could be improved by asking participants to indicate which graphic element they most closely identified with, and; (4) whether employing the EC and SI scales that further sub-divide the mid-value on each scale, helps to explain more variance in a DWB. Results of Study 5 and Study 6, indicated that omission of a visualization task does impact upon the content of participant drawings and judges' rating of EC and SI, such that the content from a drawing-only task, does not significantly predict a DWB. In other words, inclusion of a visualization task appears to afford a deeper connection to unconscious cognitive content than a drawing-only task. Results also indicated a trend for insecure attachment to demonstrate higher overall levels of anxiety. Additionally, higher levels of participant anxiety post the drawing only task condition (Study 5) and the combined visualization-drawing task condition (Study 6), were significantly associated with a higher DWB. The intervention of asking participants to indicate which graphic element in drawings that they most closely identified with, did not appear to improve

SI rating, similarly, employing the version of the EC and SI scales that sub-divides the mid-value on each scale, did not help to explain more variance in a DWB.

INTRODUCTION

The purpose of the research reported in this chapter was to build upon the findings of Study 4 (see Chapter 6). Since Study 4 did not include a 'no-visualization condition' (i.e., a drawing-only condition), Study 5 was designed to investigate whether a drawing-only condition, would yield the same quality of drawing content/degree of relationship with main variables of interest, as for a combined visualization-drawing condition (Study 6). It was also of interest to explore whether participant level of anxiety post the drawing-only task condition (in Study 5) and post the combined visualization-drawing task condition (in Study 6), impacted meaningfully upon results. For example, in Chapter 4 (p. 129) we noted how imagery of aversive events is associated with greater anxiety, compared to encoding the same information verbally (Holmes & Matthews, 2005). Therein, we might expect more negative visualization content to be associated with higher anxiety levels. Furthermore, we were particularly interested to explore, whether, as suggested by the attachment literature, more anxiety is associated with insecure attachment compared to secure attachment (e.g., Bowlby, 1969, 1973, 1988; Ainsworth, 1978; Ciechanowski et al., 2002; George & West, 2012; Kidd, Hamer, & Steptoe, 2011; Mikulincer & Shaver, 2007). We also wanted to see if asking participants to indicate which character/graphic element, in their drawing, they most closely identify with, would improve SI ratings, and: whether another version of the EC and SI scales (see Silver, 2005 and also Appendix XII) which further sub-divides the mid-value (3) on each scale, may improve judges' ratings on both the EC and SI scales.

As for Study 4, it was hypothesized that individuals expressing a high belief in a Dangerous World IT, as measured by the DWB scale, would be more insecurely attached and demonstrate more negative drawing-only and visualization-drawing content, compared to securely attached individuals. It was also hypothesized, informed by the literature suggesting that visualization tasks afford a deeper connection to unconscious content (e.g., Hass-Cohen &

Carr, 2008, see Chapter 4, p. 128-130): that, more negative visualization content would be associated with higher anxiety levels, also, if as suggested by the literature (e.g., Bowlby, 1988), insecure attachment is underpinned by more negative IWM content, that; insecurely attached participants in the drawing-only condition for Study 5, would demonstrate less negative content compared to insecurely attached participants in the drawing-visualization condition in Study 6; the latter, forming a deeper connection to unconscious cognitive content courtesy of the visualization part of the task, which it was presumed a drawing-only task would not achieve.

STUDIES 5 & 6

Method

Participants

Participants recruited from a UK University, comprised 98 adults ranging in age from 18-37 years $M = 19.85$ ($SD = 2.59$): of this sample, 90.7% ($n = 88$) were female and 9.3% ($n = 9$) male: there were four missing values for this variable. An a priori power analysis for multiple regression, indicated that a minimum of 91 participants were required in order to have 0.8 power for detecting a medium size when using five predictor variables and employing the traditional .05 criterion of statistical significance (Cohen, 1988). Participants were primarily recruited from the university's Research Participation Scheme (RPS) and received credits for taking part. Non-RPS participants received £5.00.

Participants were informed that data collection was anonymous and encouraged to retain their individual (uniquely coded) consent forms (Appendix XIII), should they wish to withdraw data at a later stage, and informed of their right on the information sheet (Appendix XIV) to discontinue the study at any time. Anonymity of data collection was emphasized as for Study 4. Upon completion of Study 6, the debrief form (Appendix XV) for this study,

provided contact numbers such as the university's counselling service, in the event that they were needed. In addition, the researcher was again alert to any obvious before, and after observable changes in the emotional well-being of participants, taking time out with any participants who wished to discuss their feelings.

Ethical approval and consent

The study was conducted according to the Code of Ethics of the British Psychological Society, and was granted ethical approval (Ethics code 201132684) by the university's Psychology Research Ethics Panel. As already mentioned above, participants were informed in writing (see information sheet for this study, Appendix XIV) that they were free to withdraw from the experiment during Study 5 or Study 6 without repercussions.

Design

A repeated measures design was employed for both studies.

Materials and Measurements.

Other than for the addition of the audio instructions for the drawing only condition in Study 5, and the pre and post drawing and pre and post visualization-drawing anxiety measurements, the same materials and measurements that were employed in Study 4 were also employed in Studies 5 and 6, with differences to the EC and SI ratings scales as indicated below.

Drawing task. Although there was only an audio visualization task in Study 6, in order to maintain continuity of how instructions were delivered to participants across both Study 5 and 6, an audio-file (employing the same equipment/voice as for Study 4), was created to guide participants through Study 5 (Appendix XVI).

EC and SI ratings scales. (1) the scales used by judges for rating EC and SI of participant drawings in Study 4, were replaced by the scale version of the EC and SI scales (see Silver, 2005) which further sub-divides the mid-value (3) on each scale (Appendix XII).

Additionally, in order to improve SI ratings, participants were asked to place a tick alongside the character or object in their drawings, with whom they most closely identified. However, this intervention could only be implemented in Study 6, since implementing this intervention in Study 5, may have created demand characteristics for Study 6 such as socially desirable responding. For example, in Study 5, a drawing created by a participant and depicting a victim and persecutor scenario, wherein the participant identified with the persecutor, may have meant that: in the intervening time until Study 6, the participant would have had time to think about what they may have revealed by 'placing a tick' in the first drawing, and thus, behaved more defensively in Study 6 when it came to creating a drawing.

Pre-drawing task and pre visualization-drawing task anxiety. Prior to the commencement of each study (e.g., in Study 5, after completion of demographic questions and in Study 6, upon entering the lab and activating the audio instructions), participants indicated their response to 'How anxious are you feeling now?' on a 7-point Likert type scale, with higher values denoting 'very anxious'.

Post-drawing and post drawing-visualization anxiety. Immediately after the drawing task in Study 5 and the visualization-drawing task in Study 6, before completion of the DWB questionnaire, participants indicated their response to 'How anxious are you feeling now?' on a 7-point Likert type scale, with higher values denoting 'very anxious'. For Study 5 this variable was named, 'post-drawing task anxiety' and for Study 6, this variable was named 'post visualization-drawing task anxiety'.

Procedure

Study 5

As for Study 4, the experiment was conducted in a lab, with up to five participants at a time in individual cubicles. Each cubicle contained a set of three (uniquely coded) participant packs, turned face down, labelled pack A (Stimulus Response Drawings), pack B (drawing

paper), and pack C (demographic, DWB and attachment questionnaire), a pair of headphones, a set of 12 coloring pencils, and a sharpener. After completing demographic information, participants completed the pre-experiment anxiety measure. the researcher then invited participants to begin the experiment, by pressing the 'start' key on the computer key-board. Audio instructions guided participants towards operationalizing the drawing-only task which was the same as for Study 4 (see Chapter 6, p. 150-151), thereafter, participants completed DWB and attachment measures.

As for Study 4, at the end of the experiment, participants were asked to deposit questionnaires into a 'postbox' situated in the main lab. The researcher then handed each participant an A6 sized blank card upon which to write their unique participant number and an envelope in which to seal the card and write their name. Upon returning for Study 6, the sealed envelope with the card inside, was handed back to participants so that they could enter their unique numbers onto the data packs for Study 6.

Study 6

Study 6 took place either 7 or 10 days after Study 5. Upon entering the lab, participants began by completing the pre-visualization-drawing task anxiety measure and then the rest of the experiment replicated Study 4 (see Chapter 6, pp. 153-154) by inviting participants to begin the experiment, by pressing the 'start' key on the computer key-board. The only other modification to Study 6, which meant that the experiment differed slightly to Study 4, occurred right at the very end of the experiment. In order to try and help judges to improve SI ratings, at the end of this experiment, as participants were about to deposit their data into the 'post-box', the researcher asked each participant to "*quickly please pop back into the lab and place a tick next to the character and or object with whom you most closely identify in the drawing you have created*". This intervention was specifically designed as an "add-on" request so as not to

give participants (who would be eager to leave the labs once the experiment was at an end), too much time to potentially analyze what might be behind this request. Thereafter, participants were handed a debrief sheet (Appendix XV) and given an opportunity to ask questions.

Results

Main analysis

Descriptive Data. Descriptive statistics for main variables of interest are provided in Table (15).

Demographic variables. There were no significant differences between gender, but one significant difference within gender for DWB. Splitting the data file by gender, paired-samples *t*-tests compared DWB scores for female and males from Study 5 and Study 6. Although there were no significant or notable DWB differences (though more variance in Study 6), for male participants (Study 5, $M = 3.51$, S$D = .78$, Study 6, $M = 3.54$, S$D = .98$): for females the paired-samples *t*-test revealed a decrease in DWB scores from Study 5, $M = 3.98$ ($SD = .96$) to Study 6, $M = 3.72$ (SD = 1.00). This difference, .251, BCa 95% CI [.12, .37], was significant $t(87) = .3.98$, $p > 0.001$.[1] Cohen's *d* (.42) indicated a small to medium effect.

Attachment. Of this sample, 13.3 ($n = 13$), were rated as dismissing, 18.4% ($n = 18$) ambivalent, 30.6% ($n = 30$) fearful, and 37.8% ($n = 37$) as secure. Therefore, 62.2% of this sample were rated as having an insecure attachment style.

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[1] Bootstrapping is a technique from which the sampling distribution of a statistic is estimated by taking repeated samples (with replacement) from the data set. In other words, treating the data as a population from which smaller samples are taken. The statistic of interest (e.g., the mean), is calculated for each sample from which the sampling distribution of the statistic is estimated. The standard error of the statistic is estimated as the standard deviation of the sampling distribution created from the bootstrap samples. From this, confidence intervals and significance tests can be computed (Field, 2013). It is recommended to use at least 1000 bootstrap samples. Bootstrapping is useful for when sample sizes are small and means that we can be more confident that our sample is coming from the Normal Distribution (Field, 2013).

Dangerous World Belief (DWB). The mean DWB score for Study 5 ($N = 98$) was M = 3.92 (SD = .95). A Shapiro-Wilk's (Shapiro & Wilk, 1965) test (p > .05) and visual inspection of the histogram, normal Q-Q plots and box plots showed DWB scores were approximately normally distributed, with an acceptable skewness of .238 (SE = .24) and a kurtosis of -.258 (SE = .48; Cramer, 1946). For Study 6 ($N = 98$) the mean DWB (M = 3.70, SD = .10). was lower than for Study 5. As for Study 5, a Shapiro-Wilk's (Shapiro & Wilk, 1965) test (p > .05) and visual inspection of the histogram, normal Q-Q plots and box plots showed Study 6 DWB scores were approximately normally distributed, with an acceptable skewness of .33 (SE = .24) and a kurtosis of -.62 (SE = .48; Cramer, 1946).

The relationship between the two broad attachment categories of secure/insecure attachment and Study 5 DWB was explored with analysis showing that secure demonstrated a lower mean DWB compared to insecure attachment. An independent-samples t-test was conducted to compare the DWB scores for secure and insecure attachment and indicated a significant difference in the mean scores for secure M = 3.41 (SD = .84) and insecure M = 4.23 (SD = .88) attachment; t (96) = -4.59, p = < .001. The magnitude of the differences in the means (mean difference = -.82, BCa 95% CI: -1.18 to -4.70, was large (eta2 = .17).

In order to take a closer look at the impact of each attachment type (i.e., the four category attachment variable), upon Study 5 DWB scores, a one way-between groups ANOVA with post-hoc tests was conducted. There was a statistically significant difference in DWB scores: [F (3, 94) = 7.22, p < .001]. The difference in mean scores between the four attachment categories was revealed to be small, with an effect size, calculated using eta2, of only 0.2. Post-hoc comparisons using the Bonferroni test, with adjusted alpha levels of .0125 per test (.05/4), indicated that the mean score for secure attachment M = 3.41 (SD = .83), was significantly lower when compared to ambivalent M = 4.13 (SD = .90), and fearful M = 4.34 (SD = .94) attachment, and was just above the significance threshold for dismissing M = 4.14 (SD = .71)

attachment. Therefore, within each of the three insecure attachment categories, although the mean DWB score varied, this difference within each of the three insecure attachment types was not of a significant magnitude (Figure 7).

In keeping with Study 5, the relationship between secure/insecure attachment and Study 6 DWB was explored and demonstrated a trend for secure to show a lower DWB compared to insecure. An independent-samples t-test compared Study 6 DWB scores for secure and insecure attachment and indicated a significant difference in the mean scores for secure $M =$ 3.23 (SD = .85) compared to insecure $M = 3.98$ (SD = .98): Although, this difference, -.74, BCa 95% CI [-1.09, -.32], was significant $t(96) = -3.83, p = 0.001$, the magnitude of the differences in the means (mean difference = -.74, BCa, 95% CI: -.1.09 to -3.21, was moderate ($eta_2 = .13$).

The relationship between four-category attachment and Study 6 DWB was investigated. A one-way between groups ANOVA with post-hoc tests was conducted. Analysis revealed a significant association (see Figure 8) for four-category attachment within DWB, $[F(3,94) =$ 5.32; p .002]. The effect size (.15), using eta_2, was large. Post-hoc comparisons using the Bonferroni test, with adjusted alpha levels of .0125 per test (.05/4), indicated the mean DWB score for fearful $M = 4.11$ ($SD = .10$) was significantly higher when compared to secure M=3.23 (SD=.85). There were no other significant differences (ambivalent, M=3.76 (SD=1.07); dismissing, M=3.97 (SD=.81), Figure 8).

Table 15. Means, Standard Deviations, Frequencies and ranges of Major Variables for Studies 5 & 6

Variable	Mean	SD	Frequencies
DWB - STUDY 5 (7-point scale, 1-7)	3.92	.95	-
DWB - STUDY 6 (7-point scale, 1-7)	3.70	.10	-
EC - STUDY 5 (5-item scale, 1-5)	2.93	1.17	-
EC - STUDY 6 (5-item scale, 1-5)	3.07	1.24	-
SI - STUDY 6 (5-item scale, 1-5)	3.07	1.33	-
Attachment			
Insecure	-	-	62.2% (*N* =61)
Secure	-	-	37.8% (*N*=37)
Dismissing	-	-	13.3% (*N*=13)
Ambivalent	-	-	18.4% (*N*=18)
Fearful	-	-	30.6% (*N*=30)
Visualization imagery			
(3-item scale, 1-3)			
Positive (1)	-	-	32.7% (*N*=32)
Neutral (2)	-	-	56.1% (*N*=55)
Negative (3)	-	-	11.2% (*N*=11)
Drawing imagery inspired by visualization			
Yes	-	-	91.8% (*N*=90)
No	-	-	8.2% (*N*=8)
Previous art experience	4.82	1.83	-
Visualization memories			
(3-item scale)			
Childhood (1)	-	-	35.1% (*N*=34)
Teenage (2)	-	-	43.3% (*N*=42)
Current (3)	-	-	21.6% (*N*=21)
Gender			
Female	-	-	90.7% (*N*=88)
Male	-	-	9.3% (*N*=9)
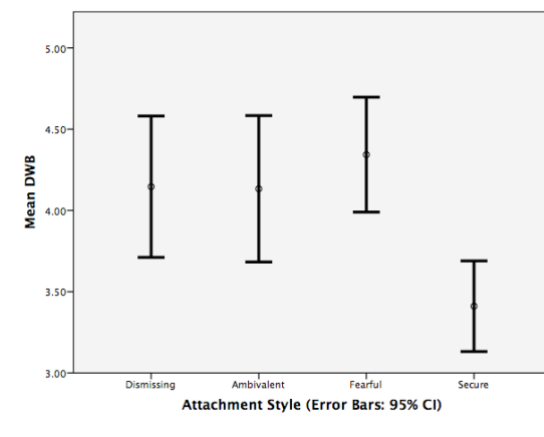
Figure 7. Mean Study 5 DWB within Four-category Attachment
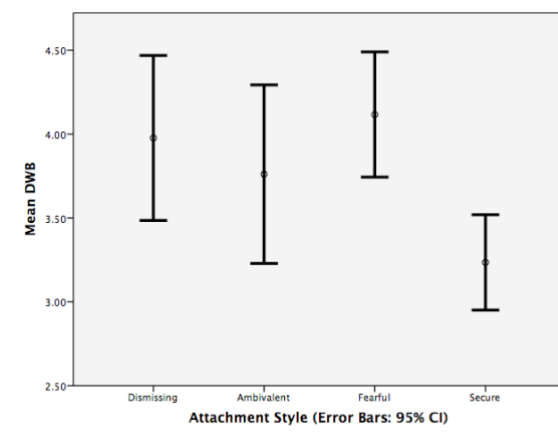
Figure 8. Mean Study 6 DWB within Four-category Attachment

Emotional content (EC). The mean score for Study 5 EC ($N = 98$), was $M = 2.93$ ($SD = 1.17$). The Pearson correlation coefficient demonstrated a non-significant correlation between Study 5 EC and Study 5 DWB; $r(98) = -.16$; $p = .10$. Exploration of Study 5 EC within secure/insecure attachment, using an independent-samples t-test, $t(96) = -1.70$, $p = .09$, returned a non-significant finding.

Additional exploration of Study 5 EC within four-category attachment revealed a trend for ambivalent $M = 3.25$ ($S.D. = 1.39$) and secure $M = 3.18$ ($S.D. = 1.07$) to be rated with the most positive EC, followed by dismissing $M = 2.7$ ($S.D. = .95$) and fearful $M = 2.51$ ($S.D. =$

1.12). A one-way between groups ANOVA, failed to reach the significance value of $p < .05$, $[F(3,94) = 2.56; p = .059]$.

The mean score for Study 6 EC was $M = 3.07$ ($S.D. = 1.24$). The Pearson correlation coefficient demonstrated a significant negative correlation between Study 6 EC and DWB; $r(98) = -.25; p = .011$ (a small effect size), hence unlike Study 5, higher dangerous world beliefs were significantly associated with less positive EC.

Exploration of Study 6 EC within secure/insecure attachment, demonstrated that secure $M = 3.45$ ($S.D. = 1.19$) compared to insecure $M = 2.83$ ($S.D. = 1.22$), were rated with more positive EC. An independent-samples t-test, $t(96) = 2.47$, $p = .015$, revealed this mean difference (.62) to be significant. Further investigation within four-category attachment (see Table 16) demonstrated secure $M = 3.45$ ($S.D. = 1.19$) to be rated with the most positive EC, followed by fearful $M = 2.85$ ($S.D. = 1.29$), dismissing $M = 2.84$ ($S.D. = 1.27$), and ambivalent $M = 2.80$ ($S.D. = 1.14$). A one-way between-groups ANOVA $[F(3,94) = 1.99; p = .120]$, revealed this difference was not significant.

In order to explore whether the increase in mean EC from Study 5 to Study 6 was significantly different, a paired-samples t-test was conducted. The paired-samples t-test revealed the increase in mean EC from Study 5 $M = 2.93$ (SD = .12) to Study 6 $M = 3.07$ (SD = 1.24), to be non-significant $t(98) = -.83$, $p=.407$.

For Study 5, the mean EC for males $M=2.94$ ($SD=1.21$) and females $M=2.93$ ($SD=1.17$) was similar, but for Study 6 EC, the mean for males $M=2.72$ ($SD=1.46$) was lower than that for females $M=3.11$ ($SD=1.23$). However, an independent-samples t-test showed that this difference (.391) in means, $t(95) = .37$, $p = .373$ was not significant.

Self-image (SI). The mean SI score for Study 6 ($N = 98$), was $M = 3.07$ ($SD = 1.33$). The Pearson correlation coefficient demonstrated a significant negative correlation between Study 6 SI and DWB: $r(98) = -.30; p = .003$ (a medium effect size). Study 6 EC and SI were

highly correlated: $r(98) = .86$, $p < .001$), meaning that more powerful SI was significantly associated with more positive EC.

Table 16. Means for Study 5 EC and Study 6 EC
Within Four-category Attachment

	Emotional Content Within Four-category Attachment	
	Study 5	Study 6
	Mean (SD)	Mean (SD)
Dismissing	2.73 (.94)	2.84 (1.26)
Ambivalent	3.25 (1.39)	2.80 (1.13)
Fearful	2.51 (1.11)	2.85 (1.28)
Secure	3.18 (1.07)	3.45 (1.19)

An exploration of Study 6 SI mean within the two category variable of secure $M = 3.58$ (*S.D.* = 1.22) and insecure $M = 2.7$ (*S.D.* = 1.30) attachment, employing an independent-samples t-test, revealed a significant result, $t(96) = 3.05$, $p = .003$, with eta2 = .09, indicating a moderate effect: demonstrating that drawings by secure attachment were rated as containing significantly more powerful SI content compared to insecure attachment.

Investigation of Study 6 SI within four-category attachment demonstrated a trend for secure $M = 3.58$ (*S.D.* = 1.23) to be rated with the most powerful SI, followed by fearful $M = 2.85$ (*S.D.* = 1.35), ambivalent $M = 2.77$ (*S.D.* = 1.22) and dismissing $M = 2.5$ (*S.D.* = 1.38). A one-way between-groups ANOVA [$F(3,94) = 3.18$; $p = .027$, eta2 = .09], a moderate effect,

returned a significant result, however, post-hoc tests using the Bonferroni statistic, did not report any of the four group means to be significantly different to one another.

For Study 6, the mean SI for males $M = 2.77$ ($SD=1.62$) was lower compared to females $M = 3.11$ ($SD = 1.30$). An independent-samples t-test, however, showed this mean difference (.33), $t(95) = .18, p = .47$ was not significant.

Content of Visualization experience. For Study 6, 32.7% ($n = 32$) described the content of their visualization as positive, 56.1% ($n = 55$) as mixed and 11.2% ($n = 11$) as negative. The pattern of results between visualization content with Study 6 DWB was the same as for Study 4, indicating that the mean DWB score for those participants reporting positive content $M = 3.42$) $SD = .93$), was lower compared with the mean DWB score for mixed $M = 3.79$) $SD = .99$), and negative content $M = 4.0$ ($SD = 1.11$): thus, indicating that more positive visualization content was associated with a lower mean DWB, however: a one-way between groups ANOVA, [$F(2,95) = 2.14; p = .12$], was not significant.

Splitting the file by visualization content (i.e., positive, mixed, negative) the mean DWB for both Study 5 and Study 6 was investigated within positive, mixed and negative visualization content. Although Study 6 showed a decrease in mean DWB from Study 5 for each visualization content category, this decrease was less marked for participants reporting negative visualization content in Study 6 (Study 5 DWB, $M = 4.10$ ($SD = 1.03$), Study 6 DWB, $M = 4.04$ ($SD = 1.11$); compared to mixed (Study 5 DWB, $M = 4.04$ ($SD = .94$), Study 6 DWB, $M = 3.79$ ($SD = .99$), and positive content (Study 5 DWB, $M = 3.65$ ($SD = .90$), Study 6 DWB, $M = 3.42$, ($SD = .93$).

Keeping the file split by visualization content, paired-samples t-tests were conducted to investigate whether this decrease in DWB from Study 5 to Study 6 was significant. This analysis revealed these mean differences to be significant for: (1) positive content, $t(31)$ 2.36, $p = .024$, eta2 (.15) indicating a large effect; (2) this analysis also returned a significant result

for mixed content, $t(54)$ 2.97, $p = .004$, eta2 (.38) indicating a large effect. The decrease in DWB from Study 5 to Study 6 was not significant for negative content. In other words, a decrease in mean DWB from Study 5 to Study 6, was only significantly different for participants reporting positive and mixed content.

A one-way between groups ANOVA, conducted to explore the impact of visualization content on Study 6 EC returned a significant result [$F(2,95) = 7.41$; $p = .001$, eta2 $= .13$, a large effect]. Post-hoc comparisons using the Bonferroni test (with adjusted alpha levels of 0.166), showed that mean EC for participants reporting positive content $M = 3.68$ ($SD = 1.00$), was significantly higher compared to mixed $M = 2.85$ ($SD = 1.18$), $p = .005$, and negative $M = 2.36$, ($SD = 1.51$), $p = .006$) content. There were no significant differences for mixed and negative content. Overall, as for Study 4, these results suggest that more negative visualization content was significantly associated with less positive EC.

The impact of visualization content upon Study 6 SI was also investigated by employing a one-way between groups ANOVA. This analysis also returned a significant result, [$F(2,95) = 5.62$; $p = .005$, eta2 $= .11$, a moderate effect]. Post-hoc comparisons using the Bonferroni test (with adjusted alpha levels of 0.166), indicated the mean SI score for those participants reporting positive content $M = 3.62$ ($SD = 1.10$), was significantly more powerful compared to those reporting mixed $M = 2.91$ ($SD = 1.34$, $p = .04$) and negative images $M = 2.27$ ($SD = 1.37$), $p = .01$. There were no significant differences between mixed and negative.

The relationship between visualization content and (two category) insecure/secure attachment was investigated using a Chi-square test for independence. This analysis returned a result which was approaching significance, $\chi2$ (2, $n = 98$) $= 5.60$, $p = .061$, phi $= .24$. Therefore, as for Study 4, more positive visualization content (53.1%, $n = 17$) appeared to be associated with secure attachment compared to insecure (24.6%, $n = 15$), however, unlike the results for Study 4 which were significant ($p = .001$, see Chapter 6, p. 158), this result was not

significant. As for Study 4, due to low frequencies, further investigation exploration of four-category attachment within visualization content was not possible. Nonetheless, a look at the frequency distribution data within four-category attachment revealed, that as for Study 4, secure attachment reported the most positive visualization experience (62.1%, $n = 18$), followed by ambivalent (30.8%, $n = 4$) and fearful (15.0%, $n = 3$), with dismissing attachment (9.1%, $n = 1$) reporting the least positive visualization experience. For negative visualization experience, secure reported the least (13.8%, $n = 4$) negative content, followed by dismissing (18.2%, $n = 2$), ambivalent (30.8%, $n = 4$), and fearful (30.0%, $n = 6$) attachment (see Table 17).

An exploration of visualization content within gender showed that only 11.1% ($n = 1$) of males reported their visualization content as positive, compared to 35.2% ($n = 31$) of females.

Table 17. Distribution of Attachment Within Each Category of Content of Visualization Experience - Shown as Percentages – for Study 6

Attachment Style	VIS-positive %	VIS-Mixed %	VIS-Negative %
Dismissing	38.5 (*N*=5)	46.2 (*N*=6)	15.4 (*N*=2)
Ambivalent	11.1 (*N*=2)	66.7 (*N*=12)	22.2 (*N*=4)
Fearful	26.7 (*N*=8)	63.3 (*N*=19)	10.0 (*N*=3)
Secure	45.9 (*N*=17)	48.6 (*N*=18)	5.4 (*N*=2)

Study 5 pre-drawing task anxiety. The mean score for Study 5 pre-experiment

anxiety was ($N = 98$), was $M = 2.36$ ($SD = 1.42$).

Study 6 pre-visualization-drawing task anxiety. The mean score for Study 6 pre-experiment anxiety was ($N = 98$), was $M = 2.33$ ($SD = 1.39$.

Study 5 post-drawing task anxiety. The mean score for Study 5 post-drawing task anxiety was ($N = 98$), was $M = 2.39$ ($SD = 1.34$).

Study 6 post-visualization-drawing task anxiety. There were two missing values for Study 6 post-visualization-drawing task anxiety. The mean score for Study 6 post-visualization-drawing task anxiety was ($N = 96$), was $M = 2.15$ ($SD = 1.17$).

Study 5 pre-drawing task and post-drawing task anxiety. There was a significant positive correlation for Study 5 pre-drawing task anxiety and post-drawing task anxiety, $r(98) = .58$; $p = .001$ (a large effect size), demonstrating an increase in anxiety levels after the drawing only task.

Pre-drawing task anxiety for Study 5 was not significantly associated with Study 5 DWB. However, the Pearson correlation coefficient demonstrated a positive correlation between Study 5 post-drawing task anxiety and Study 5 DWB: $r(96) = .26$; $p = .010$ (a small effect size), demonstrating that higher post-drawing task anxiety was associated with a higher DWB (see Figure 9)

Employing a one-way between groups ANOVA to investigate Study 5 pre-drawing task anxiety and Study 5 post-drawing task anxiety within, both four category and secure/insecure attachment revealed no significant differences. However, interestingly, secure attachment $M = 2.51$ ($SD = 1.39$) rated themselves as the most anxious (see Table 18) for pre-drawing task anxiety but the least anxious when it came to post-drawing task anxiety $M = 2.11$ ($SD = 1.05$).

Using the Pearson correlation statistic, Study 5 pre-drawing task anxiety and Study 5 post-drawing task anxiety were investigated within EC and returned non-significant results. Further exploration of Study 5 post-drawing task anxiety within visualization content

demonstrated a trend for individuals with positive content $M = 1.92$ ($SD = 1.30$), to have the lowest mean level of post-drawing task anxiety: mixed content $M = 2.56$ ($SD = 1.38$) and negative content, $M = 2.36$ ($SD = 1.50$). A one way between groups ANOVA [$F(2,95) = 1.70$; $p = .187$], was not significant.

Study 6 pre-visualization-drawing post-visualization-drawing task anxiety. As per Study 5, Study 6 pre-visualization-drawing and post-visualization-drawing task anxiety were significantly and positively correlated $r(96) = .48$; $p = .001$ (a medium effect size), indicating that after the visualization-drawing task, anxiety levels increased.

In keeping with Study 5 analysis, Study 6 pre-visualization-drawing task anxiety was not significantly associated with Study 6 DWB but the Pearson correlation coefficient demonstrated a positive correlation between Study 6 post-visualization-drawing task anxiety and Study 6 DWB: $r(96) = .22$; $p = .032$ (a small effect size), demonstrating that higher post visualization-drawing task anxiety was associated with a higher DWB (see Figure 10).

A one-way between groups ANOVA to investigate the impact of Study 6 pre-visualization-drawing anxiety and post visualization-drawing task anxiety within four category and secure/insecure attachment, also revealed no significant differences. Nonetheless, secure attachment participants (see Table 18), rated themselves as being the least anxious for pre $M = 2.11$ ($SD = 1.35$) and post visualization-drawing task anxiety $M = 2.06$ ($SD = 1.09$).

Study 6 EC and post visualization-drawing task anxiety were significantly associated: $r(96) = -.24$; $p = .017$ (a small effect size), demonstrating that higher post visualization-drawing task anxiety was associated with less positive EC.

Study 6 pre-visualization-drawing task anxiety was not significantly correlated with SI, however, as for EC, above, Study 6 post-visualization-drawing anxiety was significantly associated with SI: $r(96) = -.22$; $p = .023$ (a small effect size), demonstrating that higher post visualization-drawing task anxiety was associated with less powerful SI.

Individuals reporting the most positive visualization content had lower mean post-visualization-drawing task anxiety, positive content, $M = 1.68$, $(SD = .75)$, mixed content $M = 2.30$ $(SD = 1.26)$, and negative content, $M = 2.73$ $(SD = 1.27)$. Unlike Study 5, a one-way between groups ANOVA, returned a significant result [$F(2,93) = 4.61$; $p = .012$, eta2 = .09, a moderate effect]. Post-hoc comparisons using the Bonferroni test, with adjusted alpha levels of .0166 per test (.05/3), indicated the mean SI score for participants reporting positive content was significantly lower compared to both mixed ($p = .05$) and negative ($p = .02$). The mean SI score between mixed and negative content was not significantly different.
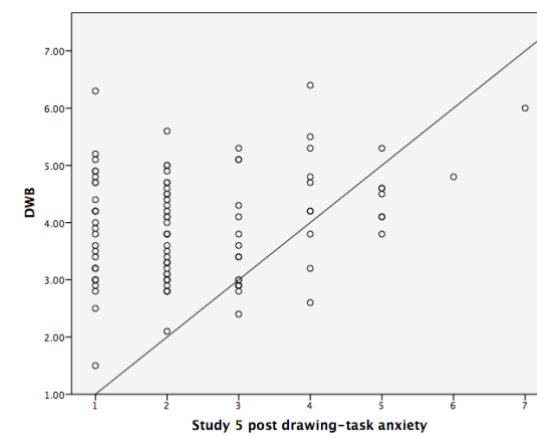
Figure 9. Correlation between Study 5 Post-drawing Task Anxiety and Study 5 DWB
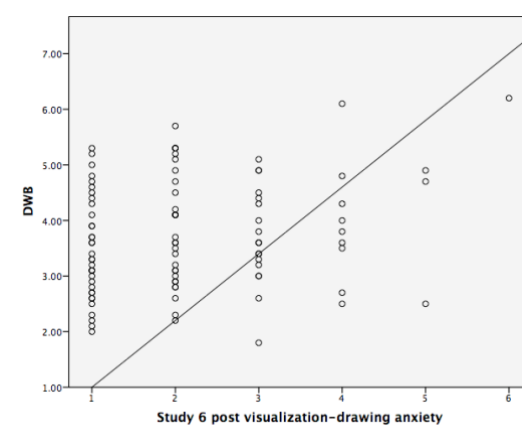
Figure 10. Correlation between Study 6 Post-visualization-drawing Task Anxiety and DWB

Predicting a Dangerous World Belief (DWB). For Study 5, in order to assess whether the predictor variables, attachment (two-category, secure/insecure), and Study 5 post-drawing anxiety had unique relationships with the outcome variable of Study 5 DWB, after conducting testing for the assumptions of multiple regression, simple linear multiple regression analyses were conducted. As for Study 4, the two-category secure/insecure attachment variable was recoded (i.e., dummy coding) into two sets of separate binary variables, namely secure and insecure, using the same coding.

An analysis of standard residuals was carried out, which showed that the data contained no outliers (Std. Residual Min = -2.16, Std. Residual Max = 2.68). Tests to see if the data met the assumption of collinearity indicated that multicollinearity was not a concern (secure, Tolerance = .97, VIF = 1.02; insecure, Tolerance =. 97, VIF = 1.02; post-drawing anxiety, Tolerance = .97, VIF = 1.02). The data met the assumption of independent errors (Durbin-Watson value = 1.81). The histogram of standardized residuals indicated that the data contained approximately normally distributed errors, as did the normal P-P plot of standardized residuals, which showed that the majority of points were on the line. The scatterplot of standardized residuals showed that the data met the assumptions of homogeneity of variance and linearity. The data also met the assumption of non-zero variances (DWB, Variance = .90; EC/SI, Variance = .24; and; post-drawing anxiety, Variance = 1.76).

Using the enter method, it was found that insecure attachment (β = .39, p < .001) and post-drawing task anxiety (β = .19, p = .037) explained a significant amount of the variance in DWB scores, $F(2,95) = 13.25$, $p < .001$, $R_2 = .22$, $R_2 _{Adjusted} = .20$. This analysis represented a small effect size, explaining 22% of the variance in DWB. This analysis demonstrates that a higher DWB was significantly predicted by a more insecure attachment and higher levels of post drawing task anxiety.

For Study 6, in order to assess whether the predictor variables, EC/SI, attachment (two-category secure/insecure), and post-visualization-drawing anxiety had unique relationships with the outcome variable of DWB, after testing for the assumptions of multiple regression, simple linear multiple regression analyses were conducted. Once again, as for studies 4 and 5, the two-category secure/insecure attachment variable was recoded into a set of two dummy variables.

An analysis of standard residuals was carried out, which showed that the data contained no outliers (Std. Residual Min = -1.99, Std. Residual Max = 2.30). Tests to see if the data met the assumption of collinearity indicated that multicollinearity was not a concern (EC/SI, Tolerance = .87, VIF = 1.13; insecure attachment, Tolerance = .92, VIF = 1.07, post-visualization anxiety, Tolerance = .94, VIF = 1.06). The data met the assumption of independent errors (Durbin-Watson value = 1.19). The histogram of standardized residuals indicated that the data contained approximately normally distributed errors, as did the normal P-P plot of standardized residuals, which showed that the majority of points were on the line. The scatterplot of standardized residuals showed that the data met the assumptions of homogeneity of variance and linearity. The data also met the assumption of non-zero variances (DWB, Variance = .99; EC/SI, Variance = 1.54; secure attachment, Variance = .237; insecure attachment, Variance = .95, and ; post-visualization anxiety, Variance = 1.36).

Using the enter method, it was found that EC/SI, insecure attachment and post-visualization anxiety, explained a significant amount of the variance in DWB scores, $F(3,92) = 7.57$, $p < .001$, $R^2 = .20$, $R^2_{Adjusted} = .17$: a small effect size, explaining approximately 20% of the variance in DWB. In this model, when the variance explained by all other variables was controlled for, only insecure attachment ($\beta = .31$, $p = .002$) made a unique contribution to the model: (EC/SI $\beta = -.17$, $p = .096$, and post-visualization-drawing anxiety $\beta = .16$, $p = .10$).

Table 18. Means and Standard Deviations for Study 5 Post-drawing Task Anxiety and Study 6 Post Visualization-drawing Task Anxiety within Four Category Attachment

| | Study 5 | | | | Study 6 | | | |
| | Pre-anx | | Post-anx | | Pre-anx | | Post-anx | |
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Dis	2.38	1.66	2.38	1.55	2.85	1.77	2.38	1.19
Amb	2.39	1.75	2.50	1.58	2.33	1.37	2.24	1.25
Fear	2.13	1.13	2.67	1.39	2.37	1.27	2.10	1.24
Sec	2.51	1.38	2.11	1.04	2.11	1.35	2.06	1.09

Additional analysis

Drawing inspired by visualization. An inspection of the frequency data for the drawing inspired by visualization variable, showed for Study 6, that the majority of participants (91.8%, n = 90) reported that visualization content had been projected onto subsequent drawings, with 8.2%, (n = 8) reporting 'no'. As for Study 4, this was a consistent pattern for each attachment category (see Table 19), with ambivalent reporting the highest percentage of 'no' for both Study 4 (33.3%, n = 4) and Study 6 (22.2%, n = 4).

Developmental stage of visualization. There was one missing value for stage of development, of those who responded 43.3% (n = 42) stated their memories focused on *teenage*; 35.1%, n = 34) on *childhood*, 21.6%, n = 21) on *current/recent* events. Therefore, during the visualization, approximately 78.4% of participants focused on past memories.

Previous art experience. For previous art experience, the mean score was (N = 98), M = 4.82 (SD = 1.830). Regardless of experience, all participants took part in the drawing task, thus there was 100% engagement with the drawing task. Using Pearson correlation, we investigated whether drawing ability affected Study 5 & 6 EC Study 6 SI scoring. These correlations (r(98) = -.04; p = .670, r(98) = -.07; p = .495, and r(98) = -.02; p = .876, respectively), were not significant, meaning drawing ability had no effect on ratings

Table 19. Percentage of Participants Within Four-category Attachment Who Reported Whether Visualization Content in Study 4 and Study 6, had been Projected onto Subsequent Drawings

| | Was visualization content projected onto subsequent drawings | | | |
| | Study 4 | | Study 6 | |
	Yes %	No %	Yes %	No %
Dismissing	80.0 (*N*=8)	20.0 (*N*=2)	92.3 (*N*=12)	7.7 (*N*=1)
Ambivalent	66.7 (*N*=8)	33.3 (*N*=4)	77.8 (*N*=14)	22.2 (*N*=4)
Fearful	68.4(*N*=13)	31.6 (*N*=6)	96.7(*N*=29)	3.3 (*N*=1)
Secure	75.0 (*N*=21)	25.0 (*N*=7)	94.6(*N*=35)	5.4 (*N*=2)

Purpose of study. For this question, *8%* (N = 8) of participants provided feedback. As for Study 4, participants tended to correctly guess that the study was investigating something to do with imagination and creativity, but appeared not to make specific connections with the study aims. Examples of comments included, *'studying correlation between emotion and*

imagination', 'How imagining different things affects creativity' and *'about memory and mood'.*

Discussion

The main aims of conducting Studies 5 and 6, were to explore several questions that arose as a result of Study 4. Therein, we wished to investigate whether: omission of a visualization task (Study 5) impacted upon results in a meaningful way; participant level of anxiety post the drawing task in Study 5, and post the visualization-drawing task in Study 6, impacted meaningfully upon results: More specifically, whether, as suggested by the attachment literature, more anxiety is associated with insecure attachment compared to secure attachment (e.g., Bowlby, 1969, 1973, 1988; Ainsworth, 1978; Ciechanowski et al., 2002; George & West, 2012; Mikulincer & Shaver, 2007), and if so: how this may impact upon findings. Additionally, we were keen to see if, asking participants to indicate which character/graphic element, in their drawing, they most closely identify with, and employing the EC and SI scales that further sub-divides the mid-value on each scale, helps to explain more variance in a DWB.

As with Study 4, it was also hypothesized that individuals expressing a high belief in a Dangerous World IT, as measured by the DWB scale, would be more insecurely attached and demonstrate more negative drawing-only and visualization-drawing content, compared to securely attached individuals.

Main Findings of Interest

As with Study 4, overall, Studies 5 and 6 have also provided evidence to show that objective evaluation of EC and SI drawing content, was significantly correlated with DWB responding. However, somewhat interestingly, the association between EC and DWB, unlike SI (the latter only being measured in Study 6, see this chapter, p. 172), was only significant for Study 6. Notably, only Study 6 contained the visualization: It may be that, as suggested by the

literature (e.g., Hass-Cohen & Carr, 2008; Liebmann, 2001; Conway, 2001), the visualization task in Study 6 connected individuals to deeper levels of cognition, the content of which was subsequently projected onto drawings. In turn, this may have resulted in drawings that were more emotionally authentic and less guarded, thus this was reflected in judges' EC ratings. This speculative interpretation would seem to suggest that inclusion of the visualization task, makes a difference when investigating EC, and impacts upon results in a meaningful way.

Furthermore, if we accept the premise that the visualization task does connect participants to IWM content, and that (in a non-forensic population), even those participants categorized as insecure, are likely to be able to access IWMs that are not wholly negative in nature; it may be that the decrease in mean DWB from Study 5 to Study 6, as previously suggested, is evidence of the protective function of being able to access more supportive/positive IWMs (e.g., George & West, 2012), through the vehicle of a visualization. Thus, omission/inclusion of a visualization task may indeed impact upon results in a meaningful way.

Additionally, it was noted that following the visualization-drawing task in Study 6, males were rated with lower mean EC (M = 3.67, SD = 2.291: indicative of more negative emotional content), compared to females (M = 4.13, SD = 1.98): Considered alongside the finding that only 11.1% (n = 1) of males reported their visualization content as positive, compared to 35.2% (n = 31) of females—this relationship for gender, may also add to the argument of the ability of visualization task to tap into deeper levels of cognition which can subsequently be projected onto simple drawings. Additionally, as with Study 4, Study 6 found SI ratings to be significantly correlated (p = .003) with DWB responding.

It would appear that employing the version of the EC and SI scales (see Silver, 2005) that further sub-divides the mid-value (3) on each scale, does not necessarily help to improve judges' ratings such that they explain more variance in a DWB. For example, whereas the effect

sizes in Study 4 (see Chapter 6, p. 156) for both EC (r = -.32) and SI (r = -.30) were of a medium magnitude (for Study 5, the relationship between EC and DWB was non-significant – see potential explanation for this finding above): for Study 6, the effect size was small (r = -.254): with the effect size for Study 6, SI (r = -.30) remaining of medium magnitude. Taking this result for SI into consideration, would also seem to indicate that the intervention at the end of Study 6 (i.e., asking participants to indicate which graphic element they most closely identify with), does not necessarily help to explain more variance in a DWB.

Another reason for these smaller effect sizes, may be that perhaps, although identifying as insecure, some of the participants in this two-part study were not as insecure as those participants from Study 4. As discussed in Chapter 1 (p. 20), the attachment literature shows that secure attachment styles, appear not to exhibit as great a degree of differentiation compared to insecure attachment styles (Donahue et al., 1993). This may have resulted in insecure participants in the current set of studies, having less negative IWMs overall, thereby potentially explaining the smaller effect size. For example, in Study 4, 24.4% (n = 19) of participants rated their visualization content as negative, compared to 11.2% (n = 11) in Study 6. Nonetheless, in keeping with Study 4, results for Studies 5 and 6, also demonstrated that more insecure attachment was significantly associated with a higher DWB. It must also be borne in mind, that this research, conducted with a non-forensic population, with a distal goal of improving/complementing forensic assessments: is likely to return a larger effect size if conducted within a forensic population, wherein, according to the literature, insecure attachment (underpinned by more negative IWMs) is said to be more prevalent (e.g., Cortoni & Marshall, 1998; Gal & Hoge, 1999; Keogh, 2012; Smallbone & Dadds, 1998).

Of particular interest, and again, somewhat echoing the findings of Study 4, when analyzing responding for content of visualization image in Study 6, only 38.5 % (n = 5: see Table 17, p. 185) of dismissing participants, (92.3% , n = 12) of whom agreed that visualization

content had been projected onto subsequent drawings: reported their visualization as positive. However, judges rated drawings in Study 6, by dismissing participants, as containing the most negative emotional (followed closely by fearful and ambivalent), and least powerful self-image content. Out of all the attachment categories, dismissing attachment also rated themselves as having the most pre-visualization-drawing and post visualization-drawing task anxiety for Study 6 (Table 18, p. 191). It may be that, as previously indicated in the discussion section of Study 4, this finding could be interpreted as indirect evidence for the activation of defensive exclusions (Bowlby, 1969/1982).

Therefore, in this set of studies, as per Study 4, it can be said, that overall, the degree of relationship between visualization content, EC and SI (collectively conceptualized as being indicative of underlying IWM content), attachment and a DWB, can be said to offer, evidence of the convergent validity of the drawing task, therein: for IWMs to be central to an understanding of problematic ITs. It may also be, that as for Study 4, more positive IWMs can be said to act as a protective factor against a DWB. For example, the mean DWB score for females in Study 5 was significantly lower than for Study 6, and as noted above, in Study 6, 24% more of females, compared to males (for whom there was no significant change in DWB from Study 5 to Study 6), reported their visualization content as positive and were rated with a higher mean EC (p. 181) and SI (p. 183) compared to males.

However, despite the trend in Study 5, for less positive EC to be associated with a higher DWB, only insecure/secure attachment and post-drawing task anxiety were found to significantly predict a higher belief in a Dangerous World IT (DWB). In Study 6, although less positive EC, less powerful SI, more post-drawing-visualization task anxiety and secure/insecure attachment were significantly associated with a higher DWB, when entered into a regression model, only secure/insecure attachment made a unique contribution to the model. Hence, the hypotheses of Studies 5 and 6 have been partially supported, with the

association between secure/insecure attachment and DWB, proving itself to be the most reliable predictor.

As for Study 4, judges' ratings of emotional and self-image drawing content, were unaffected by participant level of art experience. A higher percentage of participants (91.8, n = 90) in this two-part study compared to Study 4 (72%, n = 54), reported that visualization content had been projected onto their subsequent drawings, thus providing continuing support of the utility of the combined visualization-drawing task to tap into intra-psychic content. This finding also, reflecting that this content, may perhaps be conceptualized, as suggested in the literature (Oster & Crone, 2004, see Chapter 4, p. 101), as an extension of personal and interpersonal communication, in much the same way as outlined towards the end of Chapter 4 (p. 132); that beliefs, communicated through verbal conceptual cognition, are accepted as the expression of the way a person organizes his perceptions and cognitions (e.g., Lerner, 1980). Additionally, during the visualization task in Study 6, 78.4% (n = 76) of participants focused upon past memories. Based upon this above evidence from both Studies 4 and 6, it would appear that, facilitated by the visualization, drawing content may be taken to constitute the transformation of IWM content into visible and measurable forms of experience.

Once again, as with Study 4, and echoing findings in the attachment literature (e.g., Bartholomew, 1990; Mikulincer & Shaver, 2007), the non-forensic sample for this two-part study, contained more secure (37.8%, n = 37) and fearful (30.6%, n = 30) individuals than preoccupied (18.4%, n = 18) and dismissing (13.3%, n = 13). Differences in secure/insecure attachment style responding patterns emerged in the data for both Study 5 and 6, showing that, as for Study 4, and compared to insecure, secure attachment scored a lower DWB. Within four-category attachment, for both Studies 5 and 6, attachment style responding for insecure attachment styles, replicated that observed in Study 4, with fearful demonstrating the highest DWB, followed by dismissing and ambivalent.

It was also interesting to note the findings for pre and post drawing task and visualization-drawing task anxiety measurements within insecure/secure attachment. When analyzing Study 5, pre-drawing task anxiety, compared to insecure, secure attachment rated themselves as the most anxious but the least anxious when it came to post-drawing task anxiety. In this instance, lower post-drawing task anxiety for secure, may have resulted from secure participants being able to connect to more positive IWM content during the drawing task. In Study 6, secure rated themselves as being the least anxious both pre the visualization-drawing task and post the visualization-drawing task, compared to insecure. This finding potentially offers support to the rather robust finding in the literature (e.g., Bowlby, 1988; Ainsworth, 1978; George & West, 2012; Kidd et al., 2011; Mikulincer & Shaver, 2007), that insecure attachment is associated with higher levels of anxiety

Whereas pre-task anxiety measurements for both Studies 5 and 6 demonstrated no significant associations, post-drawing and post visualization-drawing task anxiety analysis demonstrated that higher levels of anxiety were significantly associated with a higher DWB. This finding would seem to suggest that something had changed for participants during the tasks: It seems likely that the change was to do with the cognitive content participants experienced therein. With this in mind, higher post-drawing and visualization-drawing task anxiety was associated with participants who had experienced more negative visualization content: significantly so for Study 6.

This latter finding, with respect to Study 6, may also potentially be explained with recourse to the suggestion, as above, that the visualization task in Study 6, connected individuals to deeper levels of cognition (e.g., Hass-Cohen & Carr, 2008; Liebmann, 2001; Conway, 2001), the content of which, if anxiety-provoking (i.e., more negative), subsequently informed participant self-reports of anxiety: This finding would also appear to be supported by the literature on the ways in which imagery of aversive events is associated with greater

anxiety, compared to encoding the same information verbally (Holmes & Matthews, 2005). Conversely, the finding for lower overall anxiety to be associated with secure attachment, if we accept that secure attachment is underpinned by more positive IWMs (e.g., Bowlby, 1988) may be evidence of the protective factor of more positive IWMs (e.g., George & West, 2012).

The combined results of Study 4 and Studies 5 and 6, provide an interesting pattern of results and overall, lend support to Ward, Keenan and Hudson's (2000) suggestion that insecure attachment is a factor implicated in problematic ITs therein, for IWMs, as advanced by attachment theory (e.g., Bowlby, 1988), to be central to an understanding of problematic ITs.

As for Study 4, the implications of the findings from Studies 5 and 6 suggest that the easy-to-implement, and cost-effective visualization and drawing methodology employed herein, may complement existing investigations into cognitive distortions: both within research and applied contexts. It is encouraging that all participants were again, willing to engage with the novelty of the visualization and drawing tasks, which bodes well for using this methodology in future research.

There are of course issues such as that of external and ecological validity, therein, whether the degree to which the findings yielded by the visualization-drawing task can be said to hold true, and therefore, be generalized to other individuals and populations in different locations (e.g., outside of the lab) and more specifically, for forensic samples. Concerning the issue of external validity, an individual's attachment style upon leaving the lab is unlikely to have changed when that individual reaches home, nor is it likely to have changed a week or so later. In which case, if we accept Bowlby's tripartite conception of attachment (Chapter 1, pp. 27 – 30), the IWM content underpinning an individual's attachment style, at the structural level of cognition, is also unlikely to have changed: unless an individual is undergoing intensive psychotherapy aimed at restructuring cognition at this deeper level. In which case, outside of

the lab, it would be expected that the visualization-drawing task, would yield the same results. However, research such as that conducted by Baldwin and colleagues (1993), referred to in Chapter 1 (p. 20), which demonstrated considerable within-person attachment style variability, across a variety of relational contexts (Baldwin et al., 1993), must also be borne in mind.

CONCLUSION

Building upon these results, it was of interest in the next set of studies (Studies 7, 8 and 9), to investigate whether: (1) drawing methodology identified in Chapter 4 for assessing intellectual functioning, could be used to investigate the deeper, more implicit cognition implicated in an Uncontrollability IT, and; (2) to explore whether, as for a Dangerous World IT, IWMs may also be central to an understanding of an Uncontrollability IT; Furthermore, (3) we wanted to investigate the relationship between an Uncontrollability IT and a Dangerous World IT. Since (2) and (3) above meant re-running the Dangerous World experimental paradigm, this also provided us with an opportunity to explore some additional areas of interest in relation to a Dangerous World IT, which are outlined in the next chapter. For example, it was of interest to investigate, whether the content of the imagistic content experienced by participants in a drawing-only task, differed to that for the combined visualization-drawing task.

CHAPTER 8

Creatively Exploring the Implicit Component of an Uncontrollability Implicit Theory & Investigating How this may be Associated with a Dangerous World Implicit Theory

Chapter 8 presents the final (Studies 7, 8 and 9) empirical chapter of this thesis. The primary aim of this chapter, is to create an experimental paradigm using art therapy methodology, informed by the theoretical framework, outlined towards the end of section three, in Chapter 4 for investigating an Uncontrollability IT. The secondary aim of these studies was informed by Ward and Keenan's (1999) suggestion that problematic ITs can be conceived of as networks of inter-related beliefs, and concepts (Ward & Keenan, 1999): Therein, we wanted to investigate to what degree a higher belief in a Dangerous World IT and an Uncontrollability IT are underpinned by similar beliefs and concepts, in the form of IWM content, associated with an insecure attachment style. Study 7 (Preliminary Study 3) (N = 3) was conducted to ascertain inter-rater reliability for the two drawing tasks to be used for investigating the implicit component of an Uncontrollability IT. Studies 8 and 9 (N = 89), both employed the same participants, with Study 9 being conducted 7 – 10 days after Study 8. In order to investigate whether a higher belief in an Uncontrollability IT is associated with a higher belief in a Dangerous World IT, and if the former is also associated with more negative IWM content, Study 8 (informed by the experimental paradigms employed for Studies 4, 5 and 6), was designed to obtain a measure of a Dangerous World, and to gather data indicative of IWMs. Since it was also of interest to investigate whether the content of the imagistic content experienced by participants in a drawing-only task, differed to that for the combined visualization-drawing task, Study 8 contained a visualization-drawing task/condition (condition 1) and a drawing-only task/condition (condition 2). Study 9 was designed to

investigate whether the PDT (Silver, 2002: Chapter 4, p. 116-119) and PPAT (Gantt & Tabone,

1998; Chapter 4, pp. 119-124) drawing tasks, designed to assess deeper cognitive constructs,

which it was argued in Chapter 4 (see pp. 125-127), are implicated in an Uncontrollability IT:

could be used to investigate the implicit component of an Uncontrollability IT (Ward, 2000).

Results of this set of studies were not as encouraging as the previous studies, but provide

tentative support to indicate drawing tasks can also be used to investigate an Uncontrollability

IT, and that compared to secure attachment, a more insecure attachment is associated with a

higher Uncontrollability IT. Furthermore, that a higher belief in an Uncontrollability IT is

associated with a higher belief in a Dangerous World IT and more negative IWM content.

INTRODUCTION

The previous studies (Studies 4, 5 and 6 discussed in Chapters 6 and 7 respectively), have returned evidence to suggest that the degree of relationship between visualization content, EC, SI, attachment and a DWB, can be said to offer, evidence of the convergent validity of a simple drawing task, therein, for IWMs to be central to an understanding of a Dangerous World IT. Building upon these findings, the studies conducted in this chapter, aimed to investigate whether an understanding of an Uncontrollability IT can be facilitated by using a similar approach. However, the drawing tasks used to investigate a Dangerous World IT were designed to evaluate constructs implicated in emotional functioning (i.e., EC and SI content), wherein, as discussed in Chapter 4 (p. 103) the focus of analysis is upon the narrative of the pictorial content, in terms of whether the overall story is emotionally positive or negative (e.g., Silver 2002, 2005): in other words, *what* is drawn (Gant & Tabone, 1998).

On the other hand, and also as discussed in Chapter 4 (p. 113), drawing tasks designed to investigate intellectual and cognitive functioning, focus upon the physical or structural attributes of the graphic images in a picture (Gantt & Tabone, 1998): in other words, *how* things are drawn. In this latter instance, we also saw how, the focus of analysis, in which drawing content is usually held constant, falls upon areas like the shape, the line quality of the graphic images and the use of colour in the picture, (e.g. Gantt & Tabone 1998).

As discussed in Chapter 2 (e.g., p. 46), CSOs holding an Uncontrollability IT, believe that offending behavior is outside the offender's control (Ward & Keenan, 1999). Similarly, rapists holding an Uncontrollability IT (see Chapter 2, p. 47), believe that male sex drive in uncontrollable and therefore, beyond control of the individual offender (Polaschek & Ward, 2002). In other words, these individuals believe that they 'do not have agency over their own actions' (Ward et al., 2006a, p. 124). Chapter 1 (pp. 14-16) drew attention to the growing body of research suggesting that a deficit in self-agency results from an insecure attachment type

(e.g., Fonagy, 2004; Knox, 2011). Furthermore (Chapter 1, p.16), that a deficit in the agentive self (Fonagy, 2004; Knox, 2011: maps onto behavioral descriptions commensurate with an Uncontrollability IT.

Vallacher and Wegner (1989), have operationalized self-agency for use in experimental research as a two-level construct (*high-level* and *low-level)*, in the form of a questionnaire. Called '*The Behavior Identification Form'* (BIF): an instrument designed to measure differences in levels of self-agency in adulthood, and is based upon findings from action identification theory (e.g., Vallacher & Wegner, 1985), which holds that any action can be identified in many ways. For example, low level identities specify how the action is performed with high-level identities signifying why, or with what effect, an action may be performed. Individuals who identify actions at a consistently higher or lower level across a variety of action domains, can then be characterized in terms of their standing on dimensions of personality, such as their level of personal agency (Vallacher & Wegner, 1989).

Higher-level agents are thus said to think about their acts in ways that consider the motives and large meanings of the action. In contrast, lower level-agents are said to think about their acts more in terms of details of means of (embodied) action (Vallacher & Wegner, 1989). The appeal of using Vallacher and Wegner's (1989) questionnaire pertained to the way in which it is designed to investigate self-agency in a more indirect and less explicit manner compared to other questionnaires exploring self-agency (e.g., Rotter, 1966). Therein, the level of cognitive processing that comes most naturally to an individual in each of the depicted scenarios is hypothesized to be the one that will be chosen. A sample question being, to choose the answer that best describes the behavior of 'reading', with the alternatives being either (a) following lines of print (a low-level alternative), or (b) gaining knowledge (a high-level alternative) (Vallacher & Wegner, 1989).

Vallacher and Wegner (1989) reported that, overall, individuals in their studies with a

low level of self-agency when compared to those with a high sense of self agency, were found

to have: greater impulsivity and less stability over time in their ability to control behavior;

lower self-motivation; lower internal locus of control (Vallacher & Wegner, 1989). This

description appears to map onto Fonagy's (2004) description of an individual with a deficit in

self-agency, Fonagy, 2004). Their study also contained a juvenile detainee group, within which

higher-level agents: were significantly less likely to have an offense record, $r(125) = -.17$, p

$< .05$.

From the perspective of inhibition control this was said to demonstrate that these

individuals were able to exert more intentional control over their behavior than lower level

participants; they were also less likely than lower-level participants to have experienced trouble

at school, $r(125) = -.17$, $p < .05$, and; to hail from more intact family settings than lower-level

participants, $r(125) = .16$, $p < .05$.

From the above description, the characteristics which describe a deficit in self-agency

and an Uncontrollability IT can be said to be part of the same construct, thus a measurement

designed to assess the former, such as the BIF, would be expected to correlate meaningfully

with the latter. In addition, though attachment was not a conceptual framework employed by

Vallacher and Wegner (1989), they suggested there might be some developmental connection

between attachment and self-agency (Vallacher & Wegner, 1989). They suggested that future

studies could investigate the role of attachment in development of a low level of self-agency.

Current Research

The primary aim of the studies conducted in this chapter was to investigate whether the

explicit component of an Uncontrollability IT, as identified in the literature (Ward, 2000; Ward

& Keenan, 1999; Polaschek & Ward, 2002), maps onto, and is thus predicted by: (1) a deficit

in self-agency (e.g., Fonagy, 2004; Knox, 2011), which when measured by the BIF, manifests as a low-level of self- agency (Vallacher & Wegner, 1989).

As mentioned above, the appeal of using the BIF related to its more indirect approach to measuring self-agency. Therein, since an Uncontrollability IT is conceptually related to the concept of agency, we would expect to find a meaningful relationship between an explicit measurement of the former and a more indirect measurement of the latter. Furthermore, whether the explicit component of an Uncontrollability IT, is predicted by: (1) the content of drawing tasks designed to assess deeper cognitive constructs implicated in an Uncontrollability IT. More specifically, the skill of conservation — as measured by the three tasks (i.e., sequential order, horizontality and verticality, see Chapter 4, pp. 116-117) that form Silver's (2002) PDT task and that are implicated in the deeper cognition informing an Uncontrollability IT, and; (2) by specific graphic elements identified in the PPAT drawing using the FEATS (Gantt & Tabone, 1998: i.e., logic, reality, problem solving and integration, see Chapter 4, pp. 121-123) —similarly, implicated in the deeper cognition informing an Uncontrollability IT.

Therein, the three main hypotheses for Studies 8 and 9 are that participants who are in high agreement with the sentiments associated with an Uncontrollability IT, namely, the belief that behavior is directed mainly by powerful urges and emotions, therefore, ultimately they do not have control over their own actions, will also be those that are rated with: (1) a lower level of self-agency, as measured by the BIF; (2) lower scores on each of the PDT variables (i.e., indicative of lower mastery of the skill of conservation), and; (3) would be scored lower on the FEATS/PPAT drawing task (i.e., indicative of lower problem-solving abilities).

Secondary aims of Studies 8 and 9 were: (1) to investigate to what degree a higher belief in a Dangerous World IT and an Uncontrollability IT are underpinned by similar beliefs and concepts, in the form of IWM content, associated with an insecure attachment style: Thereby, gathering evidence for Ward and Keenan's (1999) suggestion that problematic ITs

can be conceived of as networks of inter-related beliefs, and concepts (Ward & Keenan, 1999).

Additionally, as suggested in the discussion section of Chapter 7, re-running the Dangerous

World experimental paradigm, provided us with an opportunity to explore other areas of

interest in relation to a Dangerous World IT. We were interested to investigate how enjoyable

participants' actual experience of the visualization was in order to see how this related to the

variable measuring visualization content (i.e., positive, neutral or negative). In this way, the

former variable could also serve as a control variable for the latter. It was also of interest to

investigate the content of the imagery experienced by participants during the drawing-only task

condition, to be able to compare this with the content of the imagery for participants in the

visualization-drawing condition: therein, to explore whether this imagery impacted

meaningfully upon results. As discussed in Chapter 4 (pp. 128-130), combining drawing tasks

with visualization imagery may afford an even deeper connection to unconscious cognition and

information processing biases. In which case, it would be expected that the emotional and self-

image drawing content of participants in the visualization-drawing condition would differ in

some respect to those in the drawing-only condition. With this in mind, Study 8, contained both

a visualization-drawing task (condition 1), and a drawing-only task (condition 2).

STUDY 7 (PRELMINARY STUDY 3)

Method

Participants

In total, three judges, two lecturers in forensic psychology, drawn from the University

of Kent, Canterbury, and a restauranteur, took part in this study. Of this sample, 66.6% ($N = 2$)

were female, and 33.3% ($N = 1$) male: the mean age was $M = 40.0$ years ($SD = 14.9$). For the

PDT task, three judges took part and for the PPAT/FEATS task, two judges took part.

Materials

As for Preliminary Study 2 (see, Chapter 5, pp. 143-145), for the training part of Study 7 (Preliminary Study 3), photocopies of previously scored drawings, together with marking criteria guidelines from both Silver's (2002) PDT and Gantt & Tabone's, 1998) PPAT drawing tasks were used (Appendix XVII and Appendix XVIII respectively). For the inter-rater reliability part of Study 7, a random selection of 4 PDT (each to be rated on 3 key areas of interest–sequential order, horizontality and verticality) and 8 PPAT drawings (each to be rated using the FEATS, on 4 key areas of interest - problem solving, logic, realism, and integration) from actual participant drawings created in Study 9 were used, alongside the same marking criteria guidelines (Appendix XVII and Appendix XVIII) employed for the training session. Each PDT scale was composed of a five point Likert-type scale, with a higher value of (5) denoting higher attainment/greater acquisition of the concept under investigation. Each FEATS scale for rating the PPAT drawing, was composed of a six-point Likert-type scale (0-5), with a value of 0 indicating that the concept being assessed cannot be rated. For example, in instances wherein, perhaps individual elements (e.g., person or apple tree) cannot be identified as such. A higher value of (5) for each of the FEATS scales indicates higher attainment/greater acquisition of the key concept under investigation.

Procedure

For the training part of Study 7, each judge received a short training session from the researcher using photocopies of previously scored drawing, alongside the relevant marking criteria for each scale. As for Study 3 (Chapter 5), these previous scores were erased by the researcher, so that judges were not influenced by these prior ratings. For the inter-rater part of Study 7, judges took between 7 - 10 days to independently rate the drawings, after which time, the researcher collated packs for analysis.

Results

Predictive Drawing Task (PDT). In order to maintain consistency with Silver (2002, 2005), the statistic Intra-Class Correlation Coefficient was used, to assess inter-rater reliability. A high degree of reliability (Shrout & Fleiss, 1979), was found between the three judges for the PDT ($ICC = .98$, $p < .001$).

Person Picking an Apple from a Tree (PPAT)/FEATS. In order to maintain consistency with (Bucciarelli, 2011) the statistic Pearson correlation coefficient was used to assess inter-rater reliability. Analysis showed moderate to strong inter-rater reliability for each key concept: problem solving, $r(8) = .89$; $p = .003$; logic, $r(8) = .75$; $p = .034$; realism, $r(8) = .83$; $p = .010$, and; integration, $r(8) = .77$; $p = .026$.

Discussion

Since the results for Study 7 were in line with those obtained for the PDT (.71 to.99, see Chapter 4, p. 118), and for the PPAT/FEATS (strong, $p < .01$ to moderate. $p < .05$ reliability (see Chapter 4, Table 7, p. 126 and Table 8, p. 128), it was considered that the aims of Study 7 had been met.

STUDIES 8 & 9

Method

Participants

The sample for Studies 8 and 9 contained 89 adults ranging in ages from 18 - 42 years ($M = 20.13$, $SD = 2.95$). Of this sample ($n = 76$) 85.4% were located in the 18-21-year age range ($n = 13$), 13.5% were located in the 22-26-year age range, with ($n = 1$) 1.1% (aged 42 years), 87.4% ($N = 76$) were female and 12.6% ($N = 11$) male. For Study 9, four participants

did not show up, thus 85 participants took part in the whole study. All participants were recruited from the University of Kent, Canterbury, in this instance, exclusively via the University of Kent's Research Participation Scheme (RPS). Participants were allotted timeslots through the online RPS system.

As with previous studies, participants were informed that data collection was anonymous and encouraged to retain their individual (uniquely coded) consent forms (Appendix XIX), should they wish to withdraw data at a later stage, and informed of their right on the information sheet (Appendix XXI) to discontinue the study at any time. Upon completion of Study 9, anonymity of data collection was once again emphasized as for previous studies, with the debrief form (Appendix XXII), once again providing contact numbers such as the university's counselling service. After the end of both Studies 8 and 9, the researcher was alert to any obvious before and after observable changes in the emotional well-being of participants, taking time out with any participants who wished to discuss their feelings.

Ethical approval and consent

The study was conducted according to the Code of Ethics of the British Psychological Society, and was granted ethical approval (Ethics code 20154107) by the university's Psychology Research Ethics Panel.

Design

For Study 8, a mixed subjects design was used, with one between-subjects factor, with conditions (condition 1 = visualization-drawing task, condition 2 = drawing-only task). For Study 9, a repeated measures design was employed.

Materials and Measurements

Study 8

The same materials and measurements that were employed in Studies 5 and 6 (see Chapter 7, pp. 171-173) to investigate a DWB, were also employed in Study 8 with differences as follows:

Pre-drawing task anxiety, post drawing task anxiety and pre drawing-visualization task anxiety and post-visualization-drawing anxiety and previous art experience. These variables were omitted from Study 8.

Visualization level of enjoyment. For those participants assigned to the visualization-drawing condition, there was an additional question**:** To ascertain whether participants' experience of the visualization had been enjoyable, and whether this either agreed with, or contrasted with visualization content, participants were invited to respond to, 'Did you find the visualization exercise enjoyable?' Judgments were made on a 7-point Likert-type scale, with higher values denoting that the visualization experience had been very unenjoyable.

Drawing imagery content. For those participants assigned to the drawing-only condition, to ascertain the nature of the content (but not the details) of the imagery experienced, participants were asked: 'On the whole, were the images that came into your mind during the drawing exercise (please tick one choice only): positive, mixed or negative?' Each category was awarded a value (1 = positive, 2 = mixed, 3 = negative), the variable was coded as ordinal.

Study 9

Controllability. In order to obtain a measure of participants' belief in an Uncontrollability IT, participants were asked to indicate the degree to which they agreed with the following statement, "I believe that behavior is directed mainly by powerful urges and emotions, therefore, ultimately I do not have control over my own actions". Participants responded on a 7-point Likert-type scale, with higher values denoting that participants did not

subscribe to an Uncontrollability IT (e.g., 7 = I do not agree at all), and were, therefore high in controllability.

Behaviour Identification Form (BIF). Participants completed the BIF (Appendix XXIII), a 25-force-choice-item questionnaire. Each item on the BIF describes an action behaviour that can be identified in many ways and the BIF provides two descriptions of this same behaviour, one reflective of a lower level of personal agency and one reflective of a higher level of personal agency (Vallacher & Wegner, 1989). For example, question 22 of the BIF questionnaire concerns the action behavior of 'travelling by car'. Participants are invited to consider which of the following descriptions (a) Following a map (lower level alternative), or (b) Seeing countryside (higher level alternative), best suits the way that the participant would describe this action behavior. A participant's level of personal agency is defined as the number of high-level alternatives chosen, out of a possible 25, with a higher score reflecting a high level of personal agency (Vallacher & Wegner, 1989).

Drawing tasks designed to tap into deeper cognitive constructs implicated in an Uncontrollability IT. The PDT (Silver, 2002) and the PPAT (Gant & Tabone, 1998) drawing tasks, were employed to investigate whether the content of these drawings, provided evidence of a meaningful relationship with an Uncontrollability IT: That is, whether they helped to explain the nature of the deeper, more unobservable cognition underpinning an Uncontrollability IT in terms of graphic indicators said to be markers of attainment of the acquisition of conservation (i.e., the PDT) and cognitive constructs (i.e., FEATS-problem solving, logic, realism, and integration).

Audio instructions. Once again, in order to maintain continuity of how instructions were delivered to participants across both Study 8 and Study 9, an audio-file (employing the same equipment/voice as for Studies 5, 6, 7 and 8) was created to guide participants through Study 9 (see Appendix XXIV).

Procedure - Study 8

As for Studies 4, 5 and 6, Study 8 was conducted in a lab, with up to five participants at a time, undertaking the experiment in individual cubicles. As previously, cubicles each contained three sets of (uniquely coded) participant packs, turned face down, labelled pack A (Stimulus Response Drawings), pack B (drawing paper), pack C (containing the following questions: DWB, attachment, drawing imagery content (for the drawing only condition), content of visualization, drawing inspired by visualization, visualization level of enjoyment, stage of development (for the drawing-visualization condition). After reading the information sheet (Appendix XXI) completing consent forms (Appendix XIX) and demographic information, the researcher invited participants to pop on their headphones and begin the experiment, by pressing the 'start' key on the computer key-board. Thereafter, audio instructions guided participants through the respective conditions (condition 1 - visualization-drawing condition versus condition 2 - drawing-only condition) of Study 8 (see Appendix XI for visualization-drawing task transcript and Appendix xvi for the drawing-only task transcript).

As for Study 6, to aid in the scoring of SI, participants were asked by the researcher to "*quickly please pop back into the lab and place a tick next to the character and or object with whom you most closely identify in the drawing you have created*". Thereafter, as for Study 5, each participant was handed an A6 sized blank card upon which to write their unique participant number and an envelope in which to seal the card and write their name. Participants were asked to deposit questionnaires into a 'postbox' situated in the main lab. Particular attention was paid, by the researcher, to those participants who had taken part in the visualization-drawing condition, in-case they wished to discuss anything that may have come up in the visualization part of the experiment.

Procedure - Study 9

Upon entering the lab for Study 9, participants were handed their sealed envelope containing their unique codes for entering onto the back of each of the data packs waiting face-down in the labs. Once unique codes were entered, participants were invited to pop on their headphones, press the start key for the audio and commence the experiment. Participants then heard the following: "In front of you are 4 packs of paper labeled 1, 2, 3, and 4. Please do not turn over any packs until instructed to do so. You will also see a set of coloring pencils. Please turn over pack 1 now. You will see that Pack 1 is a piece of drawing paper. Please draw a person picking an apple from a tree (i.e., the PPAT task). You will have ten minutes to complete this task. I will let you know when your time is up. I will repeat the instructions once more. Please draw a person picking an apple from a tree. You will have ten minutes to complete this task. I will let you know when your time is up".

After 9 Minutes, participants heard, "You have 1 minute left to complete this task. Your ten minutes are now at an end. Please turn over pack 2 (controllability questionnaire) and complete the questions in that pack, then turn over and complete the remaining packs labeled 3 (BIF) and 4 (PDT task and what do you think this study was about), in that order". The last sheet of pack 4, instructed participants that the study was at an end and that they could now leave. Thereafter, participants were handed a debrief sheet (Appendix XXII), and given an opportunity to ask questions.

Results

Study 8

Main analysis

Descriptive Data. Descriptive statistics for main variables of interest are provided in Table (20).

Demographic variables. There were no significant differences for gender.

Attachment. Of this sample, 18% (n = 16), were rated as dismissing, 14.6% (n = 13) ambivalent, 32.6% (n = 29) fearful, and 34.8% (n = 31) as secure. Therefore, 62.2% of this sample were rated as having an insecure attachment style.

Dangerous World Belief (DWB). The mean score for DWB (N = 89) was M = 4.03 (SD = .96). A Shapiro-Wilk's test (p > .05) and visual inspection of the histogram, normal Q-Q plots and box plots showed DWB scores were approximately normally distributed, with an acceptable skewness of -.12 (SE = .25) and a kurtosis of -.05 (SE = .51; Cramer, 1946).

An independent-samples t-test for condition (condition 1 = visualization-drawing task, condition 2 = drawing-only task), revealed there to be no significant mean DWB differences for condition (condition 1 = visualization-drawing task, M = 3.95 (SD = .98), condition 2 = drawing-only task, M = 4.1 (SD = .93), t(87) = -1.00, p =.31.

The relationship between two-category, secure/insecure attachment and DWB was explored and showed that secure demonstrated a lower DWB compared to insecure. An independent-samples t-test was conducted to compare the DWB scores for secure and insecure attachment and indicated a significant difference in the mean scores for secure M = 3.47 (SD = .96) and insecure M = 4.33 (SD = .82) attachment. The magnitude of the differences in the means (mean difference = -.85, BCa 95% CI: -1.24 to -.44) was significant, t(87) = -4.38, p < .001. Eta$_2$ (.18) indicated a large effect.

In order to take a closer look at the impact of each attachment type (i.e., the four category attachment variable) upon Study 8 DWB scores, a one-way between groups ANOVA was conducted. There was a statistically significant difference in DWB scores: [F(3,85) = 6.30; p =.001], with eta$_2$ once again, indicating a large effect size (.18). Post-hoc comparisons using the Bonferroni test with adjusted alpha levels of 0.125 per test (.05/4), indicated that the mean DWB for secure M = 3.48 (SD = .96) differed significantly to the mean DWB for each of the insecure attachment types: dismissing, M = 4.29 (SD = .95), ambivalent, M = 4.31 (SD = .78),

and fearful $M = 4.35$ ($SD = .79$). There were no significant differences within any of the three insecure attachment categories (Figure 11).

Emotional content (EC). The mean score for EC ($N = 89$), was $M = 3.26$ ($SD = .98$). The Pearson correlation coefficient demonstrated a significant correlation between EC and DWB; $r(89) = -.22$; $p = .04$ (a small effect size), however exploring mean EC within visualization-drawing, $M = 3.24$ ($SD = .89$) and drawing-only condition, $M = 3.29$ ($SD = 1.14$), employing an independent-samples t-test, revealed no significant effect of condition, $t(87) = -.23$, $p = .823$.

An independent-samples t-test was conducted to compare the EC scores for two category secure/insecure attachment, and indicated a significant difference in the mean EC scores for secure $M = 3.54$ ($SD = .84$) and insecure $M = 3.11$ ($SD = 1.03$) attachment; $t(87) = 2.02$, $p = .047$. The magnitude of the differences in the means (mean difference $= .44$, 95% *CI* : .006 to .866], was small (eta2 $= .04$). Comparing EC scores within four-category attachment, revealed secure $M = 3.54$ (*S.D.* $= .84$) and ambivalent $M = 3.46$ (*S.D.* $= .92$), to be rated with the most positive EC, followed by dismissing $M = 3.03$ (*S.D.* $= 1.18$) and fearful $M = 3.00$, (*S.D.* $=.99$). However, a one-way between groups ANOVA was not significant [$F(3,85) = 2.09$; $p = .10$].

Table 20. Means, Std. Deviations, Frequencies and ranges of Major Variables for Study 8

Variable	Mean	SD	Frequencies
DWB (7-point scale, 1-7)	4.03	.96	-
EC (5-item scale, 1-5)	3.26	.98	-
SI (5-item scale, 1-5)	3.46	1.18	-
Attachment			
Insecure	-	-	34.8%(*N*=31)
Secure	-	-	65.2 (*N*=58)
Dismissing	-	-	18% (*N*=16)
Ambivalent	-	-	14.6%(*N*=13)
Fearful	-	-	32.6%(*N*=29)
Visualization			
Imagery (3-item scale, 1-3)			
Positive (1)	-	-	38.2%(*N*=21)
Neutral (2)	-	-	32.7%(*N*=18)
Negative (3)			29.17%(*N*=16)
Drawing			
Imagery (3-item scale, 1-3)			
Positive (1)	-	-	45.5% (*N*=15)
Neutral (2)	-	-	48.5% (*N*=16)
Negative (3)	-	-	6.1% (*N*=2)
Visualization Experience	2.90	1.75	-
Unenjoyable (7-item scale, 1-7)			
Drawing imagery inspired by visualization			
Yes	-	-	69.1%(*N*=38)
No	-	-	30.9%(*N*=17)
Vis. memories (3-item scale)			
Childhood	-	-	29.6%(*N*=16)
Teenage	-	-	53.7% (*N*=29)
Current	-	-	16.7% (*N*=9)
Gender			
Female			87.4% (*N*=76)
Male			12.6% (*N*=11)

Note: DWB and Attachment statistics are based on N=89. Drawing imagery statistics based on N=33, Visualization imagery and Visualization Experience statistics based on N=55, and Visualization memory (childhood, teenage or current) statistics based on N=54.
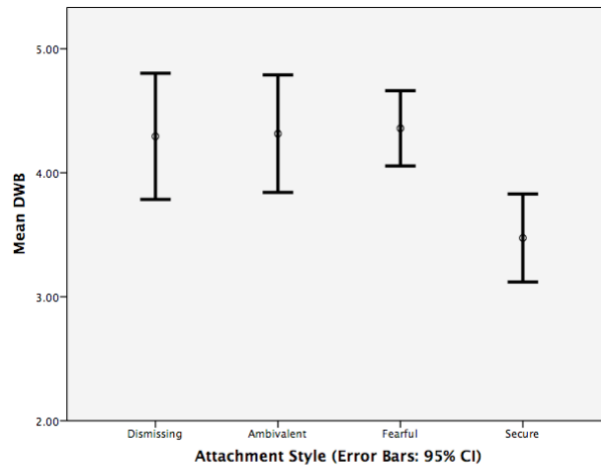
Figure 11. Mean Study 8 DWB within Four-category Attachment

Self-image (SI). The mean score for SI ($N = 89$), was $M = 3.46$ ($SD = 1.18$). Although as in previous studies less powerful SI appeared be associated with higher DWB, the Pearson correlation coefficient was not significant: SI and DWB: $r(89) = -.12$; $p = .256$. An exploration of SI within visualization-drawing $M = 3.41$ ($SD = 1.18$) and drawing-only $M = 3.52$ ($SD = 1.21$) condition, using an independent-samples t-test, revealed no significant effect of condition, $t(87) = -.43$, $p = .973$. Study 8 EC and SI were moderately correlated: $r(89) = .72$, $p < .001$), meaning that more powerful SI was significantly associated with more positive EC.

Investigating mean SI scores within secure $M = 3.70$ ($S.D. = 1.19$) and insecure $M = 3.27$ ($S.D. = 1.16$) attachment, revealed the mean difference (.38) was not significant ($p = .148$). Similarly, a one-way between groups ANOVA comparing mean SI scores within four-category attachment: ambivalent $M = 3.84$ ($S.D.=.96$), secure $M=3.70$ ($S.D.=1.19$), dismissing $M = 3.12$, ($S.D. =1.19$) and fearful $M=3.18$ ($S.D.=1.19$) was not significant, [$F(3,94) = 2.66$; $p =.053$].

Content of visualization experience. For Study 8, condition 1, 38.2% ($n = 21$) described the content of their visualization as positive, 32.7% ($n = 18$) as mixed and 29.17% ($n = 16$) as negative. As for all previous studies involving a visualization, analysis showed that the mean DWB score for those participants reporting positive content $M = 3.64$ ($SD = 1.06$), was lower compared with the mean DWB score for mixed $M = 3.73$ ($SD = .78$), and negative

content $M = 4.61$ ($SD = .77$): continuing the trend for more positive visualization content to be associated with a lower mean DWB. A one-way between groups ANOVA showed differences in mean scores to be significant, [$F(2,52) = 6.05$; $p = .004$]. The effect size, calculated using eta2 (.19) was large.

A one-way between groups ANOVA explored the impact of visualization content upon EC, returning a significant result [$F(2,52) = 5.28$; $p = .008$]. The effect size using eta2 (.17), was large. Post-hoc comparisons using the Bonferroni test, with adjusted alpha levels of .016 per test (.05/3), indicated the mean EC score for participants reporting positive content $M = 3.64$, ($SD = 1.06$), was significantly higher compared to negative $M = 2.75$ ($SD =.81$) visualization content, indicating that more negative visualization content was significantly associated with less positive emotional drawing-content: there were no other significant differences.

A one-way between groups ANOVA to investigate the impact of visualization content upon SI was investigated was significant, [$F(2,52) = 4.14$; $p = .02$: with eta2 (.14) indicating a large effect]. Post-hoc comparisons using the Bonferroni test, with adjusted alpha levels of .016 per test (.05/3), indicated the mean SI score for participants reporting positive content $M = 3.76$ ($SD = 1.09$), was significantly higher compared to negative $M = 2.75$ ($SD =.81$) visualization content, indicating that more negative visualization content was significantly associated with less positive self-image drawing-content: there were no other significant differences.

For Study 8, condition 1, 40% ($n = 22$) of participants were categorized as securely attached, with the remaining 60.0% ($n = 33$) classed as insecurely attached. A chi-square test for independence indicated a significant association between visualization content and secure/insecure attachment, χ^2 (2, $n = 55$) = 7.76, $p = .021$, phi = .38 (a medium effect-size). More positive (54.5%, $n = 12$) and less negative (9.1%, $n = 2$) visualization content was

associated with secure attachment compared to insecure attachment, 27.3% ($n = 9$) of whom reported their content as positive and 42.4% ($n = 14$) as negative.

Additional exploration of four-category attachment within visualization content using the Chi-square test for independence, was not possible, due to low frequencies. However, an inspection of the frequency data revealed more negative visualization content was associated with insecure attachment types, with fearful (56.3%, $n = 9$) and dismissing attachment (42.9%, $n = 3$), reporting the most negative visualization content (see Table 21).

Visualization level of enjoyment. For Study 8, condition 1, the mean score for visualization level of enjoyment ($N = 55$) was $M = 2.90$ ($SD = 1.75$), indicating that on average, the visualization had been experienced as quite enjoyable (with 7 indicating a very unenjoyable experience). The Pearson correlation coefficient demonstrated a positive correlation between visualization level of enjoyment and DWB: $r(55) = .31$; $p = .021$ (a medium effect size), demonstrating that a more unenjoyable visualization experience was associated with a higher DWB.

Although a more enjoyable visualization experience appeared to be associated with more positive EC, $r(55) = -.19$; $p = .17$ and more powerful SI, $r(55) = -.20$; $p = .13$, analysis employing the Pearson correlation statistic, indicated that that these associations were not significant.

The relationship between visualization level of enjoyment and secure/insecure attachment was investigated and showed that secure $M = 2.13$ ($SD = 1.28$) had a less unenjoyable visualization experience compared to insecure $M = 3.42$ ($SD = 1.83$).

Table 21. Distribution of Attachment Within Each Category of Content of Visualization
Content for Study 8 - Shown as Percentages

	VIS-positive %	VIS-Mixed %	VIS-Negative %
Attachment Style			
Dismissing	28.6 (*N*=2)	28.6 (*N*=2)	42.9 (*N*=3)
Ambivalent	50.0 (*N*=5)	30.0 (*N*=3)	20.0 (*N*=2)
Fearful	12.5 (*N*=2)	31.3 (*N*=5)	56.3 (*N*=9)
Secure	54.5 (*N*=12)	36.4 (*N*=18)	9.1(*N*=2)

An independent-samples t-test revealed this mean difference, -1.28, BCa 95% CI [-2.19, -.38],
was significant $t(53) = -2.85$, $p < 0.006$. Eta$_2$ (.13) indicated a moderate to large effect.
Extending this investigation within four-category attachment, we found that secure $M = 2.13$
(*S.D* = 1.28) rated themselves as having the least unenjoyable visualization experience,
followed by dismissing $M = 2.85$ (*S.D.* = 1.86), ambivalent $M = 3.40$ (*S.D.* = 1.64) and fearful
$M = 3.68$ (*S.D.* = 1.10). A one-way between-groups ANOVA [$F(3,51) = 3.08$; $p = .035$],
revealed this analysis to be significant. The effect size using eta$_2$ (.15) was large.

In order to see whether level of visualization enjoyment was predicted by visualization
content, simple linear regression analysis was conducted. This analysis showed that
visualization level of enjoyment was significantly predicted by visualization content ($\beta = .35$,
$p = .012$), meaning that more negative visualization content significantly predicted a more
unenjoyable visualization experience. The overall model fit was $R_2 = .126$, $p = <.008$ a small
effect size, with visualization content explaining approximately 13% of the variance in level
of visualization enjoyment.

Drawing Imagery content. For Study 8, condition 2 analysis showed that, 45.5% (n = 15) of participants described the content of the imagery they experienced whilst engaged in the drawing-only task as positive, 48.5% (n = 16) as mixed and 6.1% (n = 2) as negative. Analysis showed that the mean DWB score for those participants reporting positive imagery M = 3.71 (SD = .92), was lower compared with the mean DWB score for mixed M = 4.36 (SD = .92), and negative imagery M = 5.10 (SD = .14). However, a one-way between groups ANOVA was not significant, [$F(2,30)$ = 2.29; p =.119].

The impact of drawing imagery content upon EC was investigated using a one-way between groups ANOVA and returned a significant result [$F(2,30)$ = 4.17; p =. 025]. The effect size using eta$_2$ (.22), was large. Post-hoc comparisons using the Bonferroni test, with adjusted alpha levels of .016 per test (.05/3), indicated the mean EC score for participants reporting positive content M = 3.76 (SD = 1.09), was significantly higher compared to negative M = 2.75 (SD = .81) visualization content: there were no other significant differences.

The impact of drawing imagery content upon SI was investigated with a one-way between groups ANOVA. Although mean SI was higher for those reporting more positive drawing imagery M = 3.66 (SD = 1.33), compared to both mixed M = 3.6 (SD = 1.02) and negative M = 1.75 (SD = 1.06) this test was not significant [$F(2,30)$ = 2.43; p = .10].

The proportion of each attachment type within drawing imagery was as follows: dismissing, 26.5%, n = 9; ambivalent, 8.8%, n = 3; fearful, 38.2%, n = 13, and; secure, 26.5%, n = 9. The relationship between drawing imagery content and two-category, insecure/secure attachment was investigated using a Chi-square test for independence but was not significant (p = .454). However, analysis showed that more positive (62.5%, n = 5) and less negative (0%, n = 0) drawing imagery was associated with secure attachment compared to insecure (40%, n = 10, negative 8.0%, n = 2) attachment.

As for condition 1, additional exploration of four-category attachment within drawing imagery content using the Chi-square test for independence, was not possible, due to low frequencies. However, negative imagery was only reported for fearful attachment (15.4%, $n =$ 2), with dismissing (22.2%, $n = 2$) reporting the least positive imagery and ambivalent (66.7%, $n = 2$) reporting the most positive.

Table 22. Distribution of Attachment Within Each Category of Drawing-imagery Content for Study 8 - Shown as Percentages

	Drawing imagery-positive %	Drawing imagery-mixed %	Drawing imagery-Negative %
Attachment Style			
Dismissing	22.2 (*N*=2)	77.8 (*N*=7)	0 (*N*=0)
Ambivalent	66.7 (*N*=2)	33.3 (*N*=1)	0 (*N*=0)
Fearful	46.2 (*N*=6)	38.5 (*N*=5)	15.4 (*N*=2)
Secure	62.5 (*N*=5)	37.5 (*N*=3)	0 (*N*=0)

Predicting a Dangerous World Belief (DWB). To investigate whether there was a difference in the ability of an experimental paradigm employing a visualization-drawing (condition 1) or drawing-only task (condition 2), to predict a DWB: two simple linear multiple regression analyses for each condition were conducted, after testing for the assumptions of multiple regression. The two-category secure/insecure variable was, as previously (see Studies 4, 5 and 6), recoded into two sets of dummy variables.

For condition 1, DWB, EC, secure and insecure attachment, visualization content and visualization level of enjoyment, were entered into a regression analysis. An analysis of

standard residuals was carried out, which showed that the data contained no outliers (Std. Residual Min = -1.68, Std. Residual Max = 2.21). Tests to see if the data met the assumption of collinearity indicated that multicollinearity was not a concern (EC, Tolerance = .76, VIF = 1.30; **secure, Tolerance = .74, VIF = 1.34;** insecure, Tolerance = .74, VIF = 1.34; visualization content, Tolerance = .73, VIF = 1.36, and; visualization level of enjoyment, Tolerance = .80, VIF = 1.23). The data met the assumption of independent errors (Durbin-Watson value = 1.83). The histogram of standardized residuals indicated that the data contained approximately normally distributed errors, as did the normal P-P plot of standardized residuals, which showed that the majority of points were on the line. The scatterplot of standardized residuals showed that the data met the assumptions of homogeneity of variance and linearity. The data also met the assumption of non-zero variances (DWB, Variance = .93; EC, Variance = .97; secure, Variance = .23; insecure, Variance = .91; visualization content, Variance = .67, and; visualization experience, Variance = 3.04).

Using the enter method, it was found that EC, insecure attachment, visualization content and visualization level of enjoyment explained a significant amount of the variance in DWB scores, $F(4,50) = 4.80$, $p = .002$, $R_2 = .28$, R_2 $_{Adjusted} = .22$. Closer analysis showed that although the overall model returned a significant result, insecure attachment ($\beta = .31$, $p = .030$) was the only significant predictor (EC: $\beta = -.02$, $p = .88$; visualization content: $\beta = .25$, $p = .08$), and; visualization level of enjoyment: $\beta = .10$, $p = .45$). The overall model fit was $R_2 = .28$, $p = .002$ a small effect size, explaining approximately 28% of the variance in DWB responding. This analysis demonstrates that a higher DWB was significantly predicted by less positive EC, a more insecure attachment, less positive visualization content and a less enjoyable visualization experience.

For condition 2 (drawing only condition), DWB, EC, secure and insecure attachment and drawing imagery content were entered into the regression. An analysis of standard

residuals was carried out, which showed that the data contained no outliers (Std. Residual Min = -1.72, Std. Residual Max = 2.34). Tests to see if the data met the assumption of collinearity indicated that multicollinearity was not a concern (EC, Tolerance = .80, VIF = 1.25; secure, Tolerance = .93, VIF = 1.06; insecure, Tolerance = .93, VIF = .06, and; drawing imagery content, Tolerance = .76, VIF = 1.31). The data met the assumption of independent errors (Durbin-Watson value = 2.44). The histogram of standardized residuals indicated that the data contained approximately normally distributed errors, as did the normal P-P plot of standardized residuals, which showed that the majority of points were on the line. The scatterplot of standardized residuals showed that the data met the assumptions of homogeneity of variance and linearity. The data also met the assumption of non-zero variances (DWB, Variance = .93; EC, Variance = .97; secure, Variance = .23; insecure, Variance = .91 and; drawing imagery content, Variance = .37).

Using the enter method, it was found that EC, insecure attachment, and drawing imagery content, returned a result just approaching significance: $F(3, 29) = 2.83$, $p = .055$, $R_2 = .23$, $R_{2\ Adjusted} = .15$; EC ($\beta = -.07$, $p = .68$), insecure attachment ($\beta = .32$, $p = .06$), and drawing imagery ($\beta = .26$, $p = .17$). Thus, although less positive EC, more insecure attachment and more negative drawing imagery content appeared to be associated with a higher DWB, unlike the first model for condition 1, this one did not predict a DWB.

Additional analysis

Drawing inspired by visualization. For drawing inspired by visualization, following the trend of previous studies, the majority of participants (69.1%, $n = 38$) reported that visualization content had been projected onto subsequent drawings, with 30.9%, ($n = 17$) reporting 'no' (see Table 23). As for Studies 4 and 6, the majority of participants within each

attachment category, also responded that visualization content had been projected onto subsequent drawings.

Developmental stage of visualization. There was one missing value for stage of development, of those who responded 53.7% ($n = 29$) stated their memories focused on *teenage*; 29.6% ($n = 16$) on *childhood*, 16.7% ($n = 9$) on *current/recent* events. Therefore, during the visualization, approximately 83% of participants focused on past memories. As for Studies 4 and 6, the mean DWB for respondents who focused on current/recent $M=3.53$ ($SD = 1.29$) events, appeared to be lower when compared to childhood $M = 4.19$ ($SD = .91$ and teenage $M = 3.96$ ($SD =.91$) memories.

Table 23. Percentage of participants within four-category attachment who reported whether visualization content in Study 8 (condition 1) had been projected onto subsequent drawings

	Was visualization content projected onto subsequent drawings Study 8	
	Yes %	No %
Dismissing	71.4 (*N*=5)	28.6 (*N*=2)
Ambivalent	70.0 (*N*=7)	30.0 (*N*=3)
Fearful	68.8(*N*=11)	31.3 (*N*=5)
Secure	68.2 (*N*=15)	31.8 (*N*=7)

Results

Study 9

Main analysis

  Descriptive Data. Descriptive statistics and correlations for main variables of interest

for Study 9 are provided in Table 24 and Table 25 respectively.

Table 24. Means, Std. Deviations, Frequencies and ranges of Major Variables for Study 9.

Variable	Mean	SD	Frequencies	Min	Max
Controllability (7-point scale, 1-7)	4.21	1.28	-	(2.00)	(7.00)
BIF (25-item scale, 1-25)	14.02	5.41	-	(1.00)	(24.00)
PPAT (6-item scale, 0-6)					
PPAT/Problem Solving	4.09	1.24	-	(1.00)	(5.00)
PPAT/Logic	4.88	.32	-	(4.00)	(5.00)
PPAT/Realism	3.76	.59	-	(2.00)	(5.00)
PPAT/Integration	4.04	.64	-	(3.00)	(5.00)
Silver PDT (5-item scale, 1-5)					
Sequencing	4.62	.82	-	(1.00)	(5.00)
Horizontality	4.29	.95		(1.00)	(5.00)
Verticality	3.24	1.49		(1.00)	(5.00)

Table 25. Correlations of Main Variables for Study 9

	CON	BIF	PPAT PROB	PPAT INT	PPAT LOGIC	PPAT REAL	PDT GLO
CON	-	.12	.07	.02	.03	.24*	-.04
BIF	-	-	.20	.19	.03	.15	-.01
DWB	-	-	-.17	-.15	-.01	-.29**	-.12

** Correlation is significant at the 0.01 level (2-tailed), * Correlation is significant at the 0.05 level (2-tailed)

Primary analysis

Controllability. There were four missing values for this variable due to participants not turning up for part 2 of Study 9. The mean score for controllability ($N = 85$) was $M = 4.21$ ($SD = 1.28$). A Shapiro-Wilk's test ($p > .001$) and visual inspection of the histogram, normal Q-Q plots and box plots (see Figures 11, and 12 respectively) showed controllability scores were positively skewed, .528 (SE = .26) with an acceptable kurtosis of -.997 (SE = .517; Cramer, 1946). The positive skew meant that scores were more clustered around the lower end of the scale (see Figure 12) indicating that the modal response, representing 40% of participants ($n = 34$), for this scale was 3. However, based on converging evidence, an informed decision was made about the extent of non-normality on controllability scores. For example, the skewness value was not greater than 1 or less than -1, thus was considered moderately skewed,

nor was the skewness statistic two times greater than the standard error statistic (e.g., Field,

2000, 2016). Thus the data was considered suitable for parametric testing.
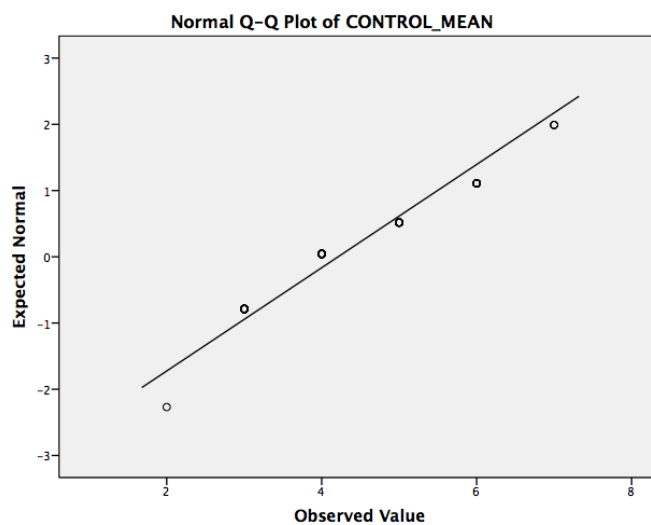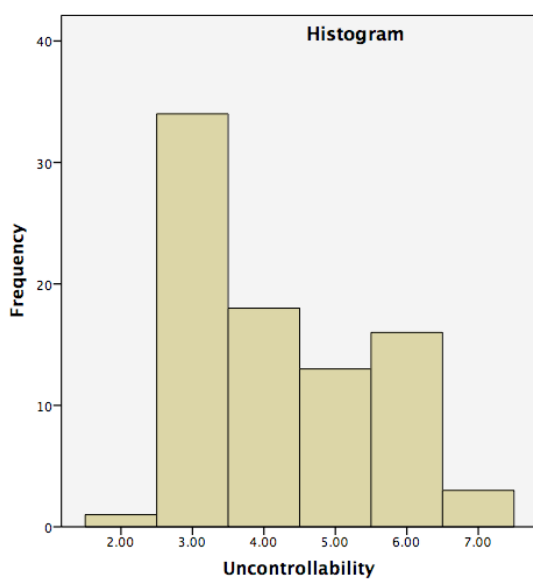
Figure 12. Normal Q-Q Plot for Controllability

Figure 13. Histogram for Controllability

Table 26. Norms for Vallacher & Wegner's (1989) Levels of Personal Agency (BIF) Scale together with results of Study 9

Vallacher & Wegner (1989)			Study 9	
Sample Source	Mean	SD	Mean	SD
University of Texas undergraduates	16.80	5.33	14.03	5.41
Florida Atlantic University undergraduates	15.67	5.08		
Trinity University faculty, staff, and employees	14.98	5.82		
Juvenile Probation services detainees	15.43	5.32		

Behaviour Index Form (BIF). The mean score for BIF ($N = 85$) was $M = 14.02$ ($SD = 5.41$), within the range of norms reported for this scale (Table 26). The Pearson correlation coefficient demonstrated that the relationship between BIF and controllability: $r(85) = .123$; $p = .263$ (Table 25), was not significant.

Predictive Drawing Task (PDT). The mean score for sequential order ($N = 85$) was $M = 4.62$ ($SD = .82$); the mean score for horizontality ($N = 85$) was $M = 4.29$ ($SD = .95$), and for verticality ($N = 85$), the mean score was $M = 3.23$ ($SD = 1.49$). As with the Silver (2002) analysis, a new variable was computed to provide an overall PDT (PDT Global, see Table 25 and Table 27) score/mean (Silver, 2002) ($M = 12.14$, $SD = 2.15$): This mean was in line with the norms (Table 27) established for this task (Silver, 2002). The relationship between global PDT and controllability was investigated, using the Pearson correlation coefficient and was not significant: $r(85) = -.04$; $p = .69$): see also Table 25 (p. 227). The relationship between each of

the three PDT drawing tasks and controllability was also investigated and revealed non-significant correlations for each: sequential order, $r(85) = -.00$; $p = .98$, horizontality, $r(85) = 101$; $p = .35$, and verticality, $r(85) = -.01$; $p = .87$.

Table 27. Norms for PDT Task together with PDT Mean and Standard Deviation for Study 9

Predictive Drawing Task	
Silver (2002)	Study 9
Mean (SD)	Mean (SD)
12.50 (2.19)* 11.31 (2.90)**	12.14 (2.15)

Note. *Males and females average age 28.7-years, **males and females senior, average age 80.8 years

Person Picking an Apple from a Tree (PPAT). Using the Formal Elements Art Therapy Scale (FEATS) to analyze the PPAT drawings for each of the four areas under investigation, the mean score for each area was as follows: problem solving $M = 4.09$ ($SD = 1.24$), logic $M = 4.88$ ($SD = .32$), realism $M = 3.76$ ($SD = .59$) and integration $M = 4.04$ ($SD = .64$). These results were in line with the norms (Buccarelli, 2011) established for these scales (Table 28). The relationship between each of the four FEATS items and controllability was explored using the Pearson correlation coefficient. This analysis indicated an association in the opposite direction to the PDT for each of the FEATS areas under investigation (see also Table 25), indicating that higher controllability was associated with better problem-solving, more logic, more realism and more integration. However, realism returned the only significant result: problem solving $r(85) = .07$; $p = .51$; logic $r(85) = .03$; $p = .77$; realism $r(85) = .24$; $p = .03$,

and; integration $r(85) = .02; p = .85$.

Table 28. Buccarelli (2011) Norms for the PPAT Drawing Task Using the FEATS and Compared with Study 9 Means and Standard Deviations

FEATS Scale Item	FEATS Norms					Study 9	
	Min	Max	Mean	SD		Mean	SD
Integration	3.0	5.0	4.01	0.29		4.03	.64
Logic	2.0	5.0	4.73	0.56		4.88	.32
Realism	2.0	4.5	3.19	0.45		3.76	.59
Problem Solving	1.0	5.0	4.01	0.86		4.05	1.23

PDT and PPAT. It was of interest to investigate the degree to which the PDT and PPAT drawing tasks were related, therein the direction of this relationship. Using the Pearson correlation coefficient, firstly, each of the three PDT areas was investigated within each of the four PPAT areas. This analysis showed that the relationship between horizontality and problem solving, ($r(85) = .32; p = .003$, a medium effect size) was the only significant association (see also Table 29). Meaning that greater acquisition of the concept of horizontality was associated with better problem solving abilities. The remainder of the first part of this analysis indicated no other significant findings.

For the second part of this analysis, global PDT was investigated within each of the four PPAT areas (see Table 29). The only significant correlations were for PDT and problem

solving, $r(85) = .30$; $p = .006$ (a small to medium effect size), PDT and PPAT/realism, $r(85) = .22$; $p = .044$, a small effect size (see also Table 29): indicating that better overall acquisition of those concepts inherent within the skill of conservation, are associated with PPAT drawings exhibiting better problem solving abilities and more realism. The remainder of this analysis showed that global PDT and PPAT/FEATS Integration was not significantly associated.

Table 29. Correlations of PDT within PPAT/FEATS

	PPAT/FEATS			
	Problem solving	Integration	Logic	Realism
PDT				
Sequencing	.04	-.04	.10	-.01
Horizontality	.32**	.18	-.08	.15
Verticality	.20	.13	-.02	.21
PDT global	.30**	.15	-.00	.22*

**Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Attachment. Mean controllability within two-category secure ($M = 4.24$, $SD = 1.24$) and insecure ($M = 4.19$, $SD = 1.31$), was investigated, with an independent-samples t-test [$t(83) = .152$, $p = .879$], returning a non-significant result. Further exploration of controllability within four-category attachment also returned a non- significant result [$F(3,81) = 1.59$; $p = .19$].

Investigation of mean BIF scores within two-category insecure/secure attachment,

employing an independent-samples t-test ($t(83) = 1.28$, $p =.20$) returned a non-significant finding. Similarly, exploration of mean BIF scores within four-category attachment employing a one-way between groups ANOVA, returned a non-significant result, [$F(3,81) = 1.04$; $p =.379$].

Investigation of two-category, secure/insecure attachment within global PDT using an independent-samples t-test returned a non-significant result: $t(83) = 1.59$, $p =.12$. A one-way between-groups ANOVA to investigate the impact of four-category attachment on mean global PDT scores, was also non-significant, [$F(3,81) = .89$; $p =.45$].

Each of the four PPAT areas under investigation were analyzed within secure/insecure attachment and four-category attachment. Conducting secure/insecure analysis firstly, for problem solving, using the FEATS scale, secure ($M = 4.31$, $SD = .89$) were rated with a higher mean compared to insecure ($M = 3.98$, $SD = 1.31$), and also for the remaining three areas: logic (secure $M = 4.93$, $SD = .25$, insecure $M = 4.85$, $SD = .35$), realism (secure $M = 3.79$, $SD = .67$, insecure $M = 3.75$, $SD = .54$), and integration (secure $M = 4.13$, $SD = .63$, insecure $M = 3.98$, $SD = .54$). Independent-samples t-tests were conducted to investigate whether any of the mean differences were significant. Analysis revealed the mean difference, .07, BCa 95% CI [-.07, .22], for logic as the only significant finding, $t(83) = .99$, $p =.03$. The eta$_2$ statistic (.01) indicated a small effect: problem solving, realism $t(83) = .31$, $p =.75$, and integration $t(83) = 1.05$, $p =.29$.

Turning our attention towards four-category attachment within each of the four PPAT areas, a one-way between groups ANOVA revealed a non-significant result for each area, with no clear responding pattern emerging within four-category attachment, other than for secure attachment (as above) to be rated higher in each area: problem solving [$F(3,81) = .93$; $p =.427$], logic [$F(3,81) = 1.12$; $p =.34$], realism [$F(3,81) = .14$; $p =.93$], and integration [$F(3,81) = .49$; $p =.68$].

Purpose of study. For this question, approximately 35% (N = 31) of participants provided feedback. As for previous studies, participants tended to correctly guess that the study was investigating something to do with imagination and creativity, with a few participants making more connections with the study aims than previously communicated. Examples of comments included, *'how our perceptions of the world can be reflected in our drawings which probably depict mental representations of things', 'perceptions of the world in terms of attitudes put into pictures' really nice task...made me more relaxed and more happy', 'A relationship between creativity and one's perceptions about their laws of control'.*

Interestingly, in the comments section at the end of Study 9, one male participant who took part in the drawing-only task (condition 2, Study 8), which incidentally took place just after the Paris attacks (November 13, 2015) said this event made him feel like creating a drawing which was '...*more patriotic and defensive whereas 2nd half more jolly apple picking'.* This male participant, categorized as dismissing attachment, scored a mean DWB of M = 6.50 (mean DWB was M = 4.02): For controllability, this participant rated himself 7, mean controllability was M = 4.21 (SD = 1.28), indicating that he believed he was very much in control.

This participant's drawing (see Figure 14) from Study 8, was entitled "The Queen + Her Country". The participant has identified himself, by means of a cross, with the Queen,[1] and was rated 4 for both EC and SI, demonstrating both positive and powerful content respectively. The drawing features strong symbols in the form of a castle and lions, For the PPAT drawing task in Study 9 (Figure 15), this participant was rated 5 for problem solving, 5 for integration, 5 for logic and 4 for realism. This potentially confusing responding pattern (i.e.,

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[1] Interestingly, this male participant has identified with a female graphic element in the form of the queen, which is not in keeping with the findings of Silver (1992) reported in Chapter 4 (p.104) of this thesis, who found that participants reliably chose same-gender subjects (Silver, 1992).

higher controllability x high mean DWB) is contemplated in the discussion section at the end

of this chapter.
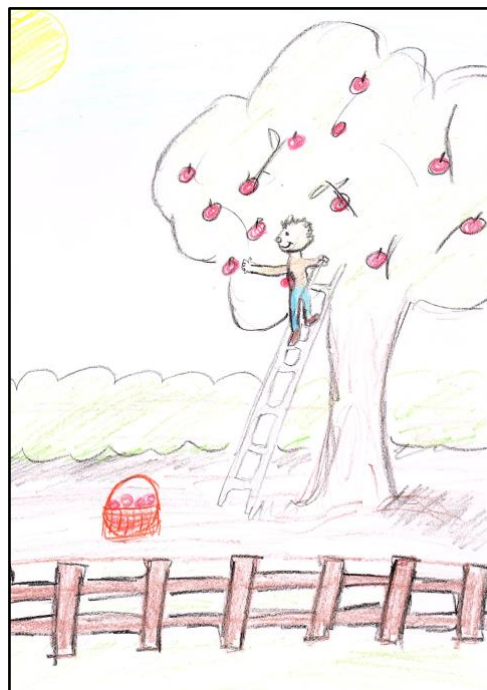

Figure 14. 'The Queen + Her Country'

Figure 15. 'Jolly Apple Picking'

Secondary analysis

In order to be able to investigate the first of the secondary aims of these two studies, namely: the degree to which a higher belief in a Dangerous World IT and an Uncontrollability IT are underpinned by similar beliefs and concepts, in the form of IWM content, this analysis, using data from both Studies 8 and 9, was carried out.

Visualization content. For visualization content, those participants reporting their visualization content as mixed, rated themselves with the most controllability ($M = 4.11$, $SD = 1.11$), followed by positive content ($M = 3.89$, $SD = 1.29$), and negative content ($M = 3.53$, $SD = 1.06$). However, a one-way between-groups ANOVA showed these mean differences to be non-significant, [$F(2,49) = 1.00$; $p = .37$]

EC and SI. The Pearson correlation coefficient statistic demonstrated a non-significant correlation between EC, $r(85) = .046$; $p = .67$]; SI, $r(85) = -.077$; $p = .484$ and controllability.

Controllability within DWB. The Pearson correlation statistic was employed. To investigate whether more controllability was associated with a lower DWB, this relationship was not significant, $r(85) = -.06$; $p = .57$.

Because of the significant association reported in Study 8 analysis (i.e., that more negative visualization content significantly predicted a more unenjoyable level of visualization experience), though unplanned at the outset, the relationship between controllability and visualization level of enjoyment was explored. The Pearson correlation coefficient revealed a significant negative association, $r(55) = -.36$; $p = .008$, a medium effect size, meaning that more controllability was significantly associated with a less unenjoyable visualization experience.

Predicting an Uncontrollability IT. After conducting testing for the assumptions of multiple regression, simple linear multiple regression analyses were used to develop a model for predicting controllability from PPAT/FEATS realism and visualization level of enjoyment.

An analysis of standard residuals was carried out, which showed that the data contained no outliers (Std. Residual Min = -1.21, Std. Residual Max = 2.44). Tests to see if the data met the assumption of collinearity indicated that multicollinearity was not a concern (Visualization experience, Tolerance = .92, VIF = 1.08; PPAT/FEATS realism, Tolerance = .92, VIF = 1.02). The data met the assumption of independent errors (Durbin-Watson value = 1.96). The histogram of standardized residuals indicated that the data contained approximately normally distributed errors, as did the normal P-P plot of standardized residuals, which showed that the majority of points were on the line. The scatterplot of standardized residuals showed that the data met the assumptions of homogeneity of variance and linearity. The data also met the assumption of non-zero variances (Controllability, Variance = 1.28; Visualization experience, Variance = 1.74; and; PPAT/FEATS realism, Variance = .59).

Simple multiple linear regression analysis were conducted using the enter method. This analysis showed that visualization experience (β = -.22, p = .01) and PPAT/FEATS realism (β= .16, p =.52) explained a significant amount of the variance in controllability scores, $F(2,49)$ = 3.93, p = .026, R_2 = .14, $R_{2\ Adjusted}$ = .10. This analysis represented a small effect size, explaining approximately 14% of the variance in controllability. In other words, more controllability was predicted by a more enjoyable visualization experience and higher scores of PPAT/FEATS realism drawing content.

Discussion

The primary aim of the studies in this chapter, was to investigate whether higher controllability would be associated with: (1) a higher level of self-agency as indicated by the BIF; (2) higher scores on the PDT, and; (3) higher scores on the four PPAT/FEATS areas of problem solving, integration, logic and realism. Somewhat unexpectedly, the results for Study 9 did not return evidence to support these hypotheses. In fact, the only significant result

pertained to PPAT/FEATS realism ($p = .03$: see Table 25, p. 227). Surprisingly, though not a significant correlation, more controllability appeared to be associated with lower scores on the PDT drawing tasks (see Table 25, p. 227). Furthermore, analysis of the association between these two drawing tasks (see Table 29, p. 232), did not return findings indicating the high degree of association that had been anticipated.

In addition, results also unexpectedly showed the relationship between PDT and PPAT/FEATS logic was in the opposite direction to that expected, suggesting that better overall acquisition of those concepts inherent within the skill of conservation are related to drawings containing less evidence of logic. Gantt and Tabone (1998) comment that making a rating on this scale is not always straightforward, particularly when the artist has allowed their imagination to run free: The key is, therefore, for the rater to distinguish what is ironic or funny, opposed to the bizarre or nonsensical (Gantt & Tabone, 1998). This may go some way to explaining these findings.

It may also be that the PPAT/FEATS drawing task could be adapted to make it a slightly more challenging task, that would focus more attention on cognition associated with problem-solving. For example, asking participants to draw a picture of a person picking an apple from "a very tall tree", as opposed to just "a tree". Figure 16 is an example of the approach we saw many participants take in relation to this drawing: simply stretching an arm up to the apple tree, a tree which they had drawn in proportion to their height. Approached in this manner, the drawing task does not really provide an insight into the problem solving abilities of these participants, but perhaps, on the other hand, indicates that these participants do not create problems where none necessarily exist! Figures 15, 17 and 18, on the other hand, are indicative of a more problem solving approach to this drawing task. Thus, if the PPAT drawing task were to be made a little more challenging, it may be that the data obtained would be even more

informative from a problem solving perspective, and also perhaps impact on the other areas of

interest (i.e., integration, logic and realism).

With this in mind, a closer look at the PPAT drawing data showed a more passive

approach to the picking of the apple, and of not thinking ahead about the problem, to be

associated with a lower BIF score. Therein, it would be expected that, on average, participants

who score low on the BIF, indicative of a lower level of self-agency (e.g., less inclined to think

ahead, and problem solve, Vallacher & Wegner, 1989, see also this chapter, pp. 203-204):

would also be more likely to demonstrate drawing data, wherein the approaches to the problem

(i.e., picking an apple from a tree), would indicate themes of; (1) not taking control but rather

passively waiting for the problem to solve itself (e.g., through external means such as the apple

dropping from the tree, Figure 18), and; (2) upon realizing that they had not thought ahead

about the problem, simply elongating an arm to deal with the issue (Figures 20 and 21).

Figure 16. PPAT Example 1. For controllability this securely attached female

participant was rated 5 for problem solving, 5 for integration, 4 for realism and 5 for logic,

PDT was 12, and BIF was 24.

Figure 17. PPAT Example 2. For controllability this fearfully attached female

participant was rated 3, for PPAT/FEATS, her score was 5 for problem solving, 4 for

integration, 4 for realism and 5 for logic, PDT was 9, and BIF was 24.
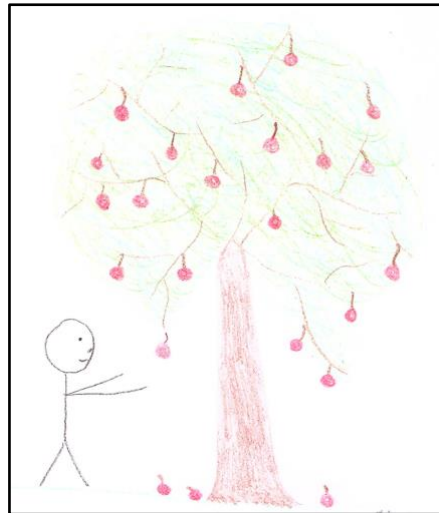

Figure 18. PPAT Example 3. For controllability this securely attached female

participant was rated 5, for PPAT/FEATS, her score was 5 for problem solving,

4 for integration, 4 for realism and 4 for logic, PDT was 9, and BIF was 24.

Figure 19. PPAT Example 4. For controllability this dismissingly attached female

participant was rated 3, for PPAT/FEATS, her score was 2 for problem solving, 3 for

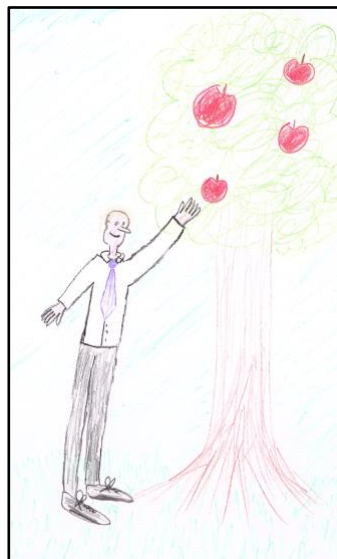integration, 3 for realism and 5 for logic, PDT was 13, and BIF was 16

Figure 20. PPAT Example 5. For controllability this securely attached male

participant was rated 7, for PPAT/FEATS, his score was 4 for problem solving, 4 for

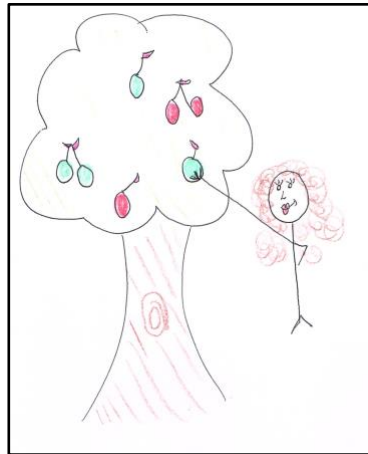integration, 4 for realism and 5 for logic, PDT was 15, and BIF was 13.

Figure 21. PPAT Example 6. For controllability this dismissingly attached female

participant was rated 6, for PPAT/FEATS, her score was 2 for problem solving, 3 for

integration, 3 for realism and 5 for logic, PDT was 13, and BIF was 16.

With respect to the controllability measure, perhaps a more sophisticated controllability

measurement, designed in a similar manner to the DWB measurement (e.g., in this case,

composed from other measurements which tap into cognition associated with an

Uncontrollability IT, such as Rotter's (1966) locus of control measurement), may improve the

quality of the data collected in these studies.

The first of our secondary aims was to investigate if a higher belief in an

Uncontrollability IT is underpinned by similar beliefs and concepts as a higher belief in a

Dangerous World IT, in the form of more negative IWM content, associated with an insecure

attachment style: disappointingly, though the data was in the anticipated direction (Table 25,

p. 227), this investigation was not supported by any significant findings. Therein, more

controllability was, associated with more positive EC and less negative visualization content,

and insecure attachment rated themselves with less controllability compared to insecure

attachment: Investigations also showed that a lower controllability score was associated with a

higher DWB (Table 25, p. 227), a result also in the anticipated direction, albeit, another one that did not reach significance.

As for Studies 4, 5 and 6, the sample for Studies 8 and 9, contained more securely and fearfully attached individuals, than preoccupied and dismissing (Bartholomew, 1990; Mikulincer & Shaver, 2007). Furthermore, due to the significant association reported in the analysis section for Study 8 (namely that more negative visualization content significantly predicted a more unenjoyable level of visualization experience): an investigation of visualization level of enjoyment within controllability also revealed a significant negative association (p = .008); indicating that more controllability was significantly associated with a less unenjoyable visualization experience.

The direction of the correlation between controllability and SI in Table 25 (p. 227) indicates that higher controllability was associated with less powerful SI drawing content. This was an unexpected finding. On the other hand, the direction of the correlation between controllability and a DWB, shows that higher controllability was associated with a lower DWB (Table 25, p. 227): this makes sense, in that participants rating themselves as being more in control would also rate themselves as perceiving the world as less dangerous place. Furthermore, higher DWB was associated with less powerful SI drawing content (Table 25). This latter finding also makes sense, and follows the trend of studies 4 and 6.

As stated earlier on this chapter, the appeal of using Vallacher and Wegner's (1989) BIF questionnaire related to the way in which it is designed to investigate self-agency in ways that are more indirect: by providing participants with an option to think of each forced-choice action scenario in either a low-level or high-level manner; with the former, which focuses upon the 'how' of the action tapping into a more, indirect and embodied mode of cognition.

Consequently, if we take the BIF measurement to be tapping into the same, albeit more implicit cognition underpinning a controllability belief, and see that a higher BIF score was

associated with more powerful SI (Table 25): then we might anticipate that higher controllability, would also be associated with higher SI. However, as stated, higher controllability was associated with less SI. Although a very tenuous explanation at this point in time, this unexpected finding, may be potentially explained by the global events (Paris attacks) and thus time-line, in which this study was conducted. This event may have made participants feel that they were not in control, and thus influenced the way in which participants explicitly responded to this question. This pattern of results may indicate that events external to the running of a study (e.g., important cultural or global events), are necessary to consider when interpreting data: Potentially, also offering up an explanation

There were other, potentially interesting anomalies in the data, such as a trend for more powerful SI to be associated with a higher DWB, when, as discussed results (Table 25) clearly demonstrate that the overall trend was for a higher DWB to be associated with a lower mean SI. How to explain this finding? We know from participant feedback discussed earlier (see p. 234 of this chapter), that in Study 8, which took place just after the Paris attacks (November 13, 2015) —one participant commented how, in the face of the Paris attacks, he took the opportunity of the drawing-only task to create a drawing which was essentially, the product of a patriotic and defensive fantasy (Figure 14, p. 235). This participant was rated with powerful (i.e., 4) SI, yet his mean DWB score was $M = 6.50$, contradicting the overall trend of this study.[1] Additionally, for Study 9, this same participant who rated the world as being an incredibly dangerous place, also rated himself with very high controllability (7: mean controllability was, $M = 4.21$, $SD = 1.28$): on the face of it, a contradictory relationship. It is possible that a potential explanation, may again lie within the external/global time-line context, in which this study took

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[1] In fact, compared to mean SI for previous studies (Study 4, $M = 3.21$, $SD = 1.38$, Study 6, $M = 3.07$, $SD = 1.33$), the mean SI for Study 8, was higher (Study 8 overall mean, $M = 3.46$, $SD = 1.18$: visualization-drawing condition, $M = 3.41$, $SD = 1.18$ and drawing-only condition, $M = 3.52$, $SD = 1.21$).

place.

As discussed above, and in Chapter 6 (p. 164), SI appears not to be as straightforward to rate as EC. Additionally, it must be borne in mind, that as stated in Chapter 4 (p. 104), firm conclusions prompted by drawing data, as with all data, become more reliable and valid when analyzing a series of drawings compared to one isolated drawing (e.g., Handler & Thomas, 2014; Oster & Crone, 2004).

It was very interesting to note that in the drawing-only task, only fearful attachment, with which according to the literature (as noted in Chapter 1 p. 20, and again in the discussion section of Chapter 5) individuals are less able to suppress their thoughts/feelings (Fraley & Shaver, 1997): was the only attachment type to report negative drawing imagery content (see Table 22, p. 222). However, in the visualization-drawing task, all attachment types reported negative visualization content: Furthermore, when reporting negative visualization content, secure attachment once again, reported the least negative content (Table 21, p. 220). This result would seem to provide potential evidence once again, as suggested in the literature (e.g., Hass-Cohen & Carr, 2008; Liebmann, 2001; Conway, 2001), for the ability of a visualization task to connect individuals to deeper levels of cognition, that ordinarily, is kept out of awareness: in the context of insecure attachment—content indicative of more negative IWMs.

CONCLUSION

Building upon the results of Studies 4, 5 and 6 (discussed in Chapters 6 and 7 respectively), designed to investigate a Dangerous World IT, the primary aim of the studies conducted in this chapter (Studies 7, 8 and 9), was to investigate whether an understanding of an Uncontrollability IT can be facilitated by using a similar approach. Overall, this set of studies has returned useful and informative data, providing thought-provoking results. However, the lack of significant findings highlights the need for refinement of the existing

paradigm, with the discussion section of this chapter sign-posting areas of improvement for future research into an Uncontrollability IT, using art-therapy methodology.

In closing, this thesis is being submitted at a time when, according to the Ministry of Justice (2018), self-harm in prisons reached a record high of 42,837 incidents in the 12 months to September 2017, which is an increase of 12% from the previous year (Ministry of Justice, 2018). We also know a similar trend exists in the general population and therefore, also, with university students (e.g., Office for National Statistics, 2016). Some drawing data from this thesis, such as that depicted in Figure 22, entitled "Only I Know", wherein the participant has clearly identified herself with the character who is self-harming, raised concerns for the researcher and her supervisors. However, due to the anonymity that had been guaranteed to participants, other than handing out debrief forms with contact numbers or counselling and psychological services, the content of this drawing and the implications therein for the well-being of the participant, could not be investigated any further.

Figure 22. 'Only I Know'

However, what this drawing does perhaps demonstrate, is the way that artwork produced by an individual can be viewed as an authentic expression of how the self organizes internally (Mathews & Matlock, 2011; Vrij et al., 2009; Silver 2002, 2005; Gantt & Tabone, 2012). Hence, the application of art therapy methodology has utility far beyond that of purely research

and treatment initiatives within forensic domains, some of which are discussed in the

concluding chapter.

CHAPTER NINE

Summary, Conclusions and Suggestions for Future Research

In this final chapter, delivered in seven sections, the findings from the current research programme are summarised, and future research directions are suggested. The first section reviews the background and aims of the thesis. The second section provides a summary of the methods, with section three reviewing the results obtained from the studies in this thesis. This is followed with a discussion, in section four, of the theoretical and practical implications of the findings described in this thesis, and: an evaluation of the ability of methodology from the domain of art therapy to investigate the unobservable cognition implicated in a Dangerous World and an Uncontrollability IT. Section five contemplates the practical implications of the findings from the current research programme, followed in section six, by a look at the limitations therein and ideas for future research. This chapter concludes, in section seven, with a summary of all of the aforementioned.

BACKGROUND AND AIMS OF THESIS

The work in this thesis was inspired by my work as an arts psychotherapist, with sex offenders on probation in the community. I trained as an arts psychotherapist whilst approaching the end of my undergraduate degree in social psychology. As with psychologists, working and researching in forensic domains, the phenomenon of cognitive distortions came to my attention when individuals who have committed sexual offences have been asked to account for their offences (Bumby, 1996; Ward, 2000): Their accounts often appearing to demonstrate distorted cognitive products, apparently reflecting "general beliefs/attitudes that violate commonly accepted norms of rationality" (Ó Ciardha & Ward 2013, p. 3). In keeping with other researchers and practitioners working in the area of cognitive distortions, I also found myself challenged by the fact that there are few tools available to distinguish between

genuine cognitive distortions and excuses or justifications. Therein, the Implicit Theories (IT) theory (Ward, 2000; Ward & Keenan, 1999) views offender statements, which appear to represent cognitive distortions, as the end-stage cognitive products of a process that begins during early development. One hypothesised early factor in this chain of events, being the presence of insecure attachment experiences. Furthermore, as we have seen in this thesis, the term *internal working model* (IWM) has been employed to describe this deeper, more unobservable cognition underpinning both ITs and attachment style: a term, that as an arts psychotherapist, I was more familiar with in relation to Bowlby's (1969/1982, 1973, 1982, 1980), tripartite conception of attachment.

In my work as an arts psychotherapist, I had found art therapy methodology to be a subtle and profound tool for tapping into the more unconscious, unobservable cognition (i.e., IWM content), underpinning clients' presenting issues (e.g., Appendix VII), and: transforming this otherwise unobservable content, into visible and thus measurable forms of data. With this in mind, Ward and Casey's (2010) innovative application of extended mind theory to cognitive distortions, discussed in Chapter 2 (which I was aware of as an arts therapist), is a perspective which suggests that an extension of an individual's cognitive system can also be discerned in entities outside the brain (Menary, 2007): an example of this process being provided in the form of note-keeping with paper and pencil (Menary, 2007; Ward & Casey, 2010).

Ward and Casey's (2010) creative and alternative approach to cognitive distortions gave me confidence to pursue the novel thinking I had for investigating forensic cognition. As an art therapist, I had long subscribed to the notion, as outlined in Chapter 4, that drawings, together with other artistic creations, can equally be viewed as an extension of personal and interpersonal communication: with the potential to particularly reveal intra-psychic content (e.g., Oster & Crone, 2004). I had also discovered, as my work as an art therapist progressed, that an understanding of attachment style helped me to better understand how to frame the

work I did with clients. Consequently, I was keen to find a way of bringing knowledge from the two domains of art therapy and forensic psychology together to create a novel paradigm, which could be empirically supported, for investigating the deeper cognition implicated in cognitive distortions: this was essentially, the impetus behind undertaking my PhD.

It is important, at this point to include a caveat concerning IWM content, particularly as it relates to the empirical studies undertaken for this thesis, which though alluded to in previous chapters, may benefit from further emphasis. Within this thesis, we have not explicitly tested that the cognitive content collated from the drawing tasks is unequivocally that which represents an individual's IWMs: nor have claims to this effect been made.

Rather, we have suggested, for example in relation to the Dangerous World IT (see Chapter 6, p. 162), that: the degree of relationship between visualization content, EC, SI, attachment and a DWB, can be said to offer, evidence of the convergent validity of the drawing task, and for IWMs to be central to an understanding of problematic ITs. In which case, the drawing task data collated therein, has been *tentatively* interpreted as being indicative of the nature of an individual's IWM content. The ideas advanced in this thesis are novel and the research of an exploratory nature and stage. Having said that, the primary aim of this thesis was to extend current knowledge of sexual offenders' cognitive distortions by complementing existing researching initiatives and assessment techniques with methodology from the domain of art therapy, and situating this aim within an attachment framework.

To this end, it was argued, whilst acknowledging their theoretical differences, that by reappraising the shared association[1] between the Implicit Theories theory (Ward, 2000; Ward & Keenan, 1999) and Attachment theory (e.g., Bowlby,1988), and utilizing methodology from the domain of art therapy: a novel-paradigm utilizing methodology from the domain of art

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[1] That, as discussed in the Introduction to this thesis, in Chapter 2 and at intervals throughout this thesis, both ITs and attachment style, said to develop during early development, are potentially underpinned at a deeper level, by the same cognitive structures: namely, IWMs.

therapy could be employed to transform internal working model content into visible and measurable forms of experience. It was hoped this approach, if successful, may be used to provide psychologists with evidence of the implicit component informing ITs, in the form of IWM content, thereby helping to extend current knowledge of cognitive distortions in a multitude of different and creative ways. An example, amongst many, being the ability to distinguish genuine cognitive distortions from excuses or justifications.

SUMMARY OF METHODS

A review of the existing literature on cognitive distortions in sexual offenders (see Chapter 2) demonstrates that the theme of attachment style (see Chapter 1) runs throughout the majority of these theories, in one form or another. For example, Ward et al. (1996) have stressed the importance of assessing attachment style of individuals who sexually offend, since treatment goals are likely to vary as a function of this factor. Furthermore, as we also saw in Chapter 2, Ward et al. (2000), draw upon the concept of internal working models (IWMs), as advanced by attachment theory (e.g., Bowlby, 1988), to understand the content underpinning problematic ITs (Ward et al., 2000). Hence, the link between cognitive distortions and attachment style has been emphasized. However, as noted in Chapter 3, when reviewing methodologies designed to tap into sexual offenders' cognitive distortions, attachment style, as an experimental research variable, appears to have been overlooked. Yet, it would seem that, just as treatment goals are likely to vary as a function of this factor, so too might the data collected from research into sexual offenders' cognitive distortions. Hence the novel paradigm created for this thesis, included attachment style as a research variable.

Furthermore, it was noted in Chapter 4, that during those earlier developmental phases when IWM content is being encoded, that this cognition is being laid-down within more primitive, non-verbal modes of cognition: of which pictorial cognition – the focus of Chapter

4, is one. Hence, the current research programme employed a selection of methodologies, informed by the domain of art therapy, which draw upon pictorial cognition. The novel paradigm created for this thesis, also utilized a selection of explicit self-report questionnaires. In other words, a multiple approach (Keown, Gannon, & Ward, 2010) to measurement was adopted in this thesis. All data collected for the empirical studies reported in this thesis, were collected in a controlled environment (laboratory).

The first empirical study of this thesis, reported in Chapter 6, Study 4 - employed a self-priming visualization task, delivered using an audio file. The visualization task was designed to connect participants to those experiences that have helped to shape their perceptions of the self, others, and the world they live in: the purpose being, to connect participants to the deeper, structural cognition (i.e., IWM content/schemata), implicated in problematic ITs. This study also measured the emotional (EC) and self-image (SI) content of participant drawings, using methodology created by Silver (2002: Silver's Drawing Task (SDT): conceptualized as an indication of the nature (i.e., positive or negative) of IWM content. A self-report measure of a Dangerous World IT (DWB) was created to measure participants' explicit belief in a DWB and attachment style was evaluated using Bartholomew's Relationship Questionnaire (Griffin & Bartholomew, 1994). Additional variables designed to provide more in-depth information related to the utility of the visualization and drawings tasks, were also included: These included questions related to the content of the visualization task, whether drawings were inspired by visualizations, what developmental stage participants focused on during the visualization. In order to investigate whether art experience influenced the way judges rated drawings, this was also investigated in Study 4.

The second (Study 5) and third (Study 6) empirical studies of this thesis, once again designed to investigate a Dangerous World IT, were reported in Chapter 7. Other than for the addition of the audio instructions for the drawing only condition in Study 5, and the pre and

post drawing and pre and post visualization-drawing anxiety measurements, the same materials and measurements that were employed in Study 4, were also employed in Studies 5 and 6. The EC and SI ratings scales for scoring participant drawings, were replaced by the scale version (see Silver, 2005) which sub-divided the mid-value (3) on each scale (Appendix XIII). Additionally, at the end of Study 6, participants were asked to indicate, by placing a tick in their drawing, which character or object they most closely identified with.

The fourth (Study 8) and fifth (Study 9) empirical studies, the last of this thesis, discussed in Chapter 8. Study 8, were designed to obtain a measure of a Dangerous World IT. These last two studies employed the same materials and measurements as for Studies 5 and 6, with the omission of the pre and post task anxiety questions, the addition of a question to investigate the level of visualization enjoyment for those in the visualization-drawing condition, and the content of drawing imagery for those in the drawing-only condition. For Study 9, which investigated an Uncontrollability IT, a one statement/questionnaire was utilized to obtain a measure of participants' belief in an Uncontrollability IT, together with the Behaviour Identification Form (BIF: Vallacher & Wegner, 1989). The drawing tasks used for Study 9, were the PDT (Silver, 2002) and the PPAT (Gant & Tabone, 1998). An audio file was used to deliver instructions for Study 9 to participants.

SUMMARY OF RESULTS

A Dangerous World IT

For Study 4, our results suggest that the nature of participants' visualization and the emotional content of their drawings predicted responses on a measure of a *dangerous world* (Ward & Keenan, 1999) implicit theory. Dangerous world beliefs were also associated with insecure attachment. Overall findings for Studies 5 and 6 also provided tentative evidence to

show that objective evaluation of EC and SI drawing content, was significantly correlated with DWB responding. However, somewhat interestingly, the association between EC and DWB, unlike SI (the latter only being measured in Study 6), was only significant for Study 6, which included the visualization task: suggesting that the visualization task connected individuals to deeper levels of cognition, the content of which was subsequently projected onto drawings. Overall, the findings of these novel studies provide encouraging evidence to suggest that art therapy methodology may be used to provide psychologists with evidence of the implicit cognitive content informing a Dangerous World IT.

An Uncontrollability IT

The findings of Study 8 and Study 9 proved not to be as encouraging as those for a Dangerous World IT, with the anticipated level of significant findings being absent. Disappointing as these results were, analysis of the data provided tentative evidence to suggest that: more controllability is associated with a higher level of self-agency as measured by the BIF, and that higher controllability is also associated with higher scores on each of the PPAT/FEATS variables; albeit that the only significant result pertained to PPAT/FEATS realism. Although results were non-significant, except for enjoyability level of visualization experience: more negative visualization content, more negative EC and more powerful SI conten, appeared to be associated with more controllability, and; insecure attachment seemed to rate themselves with less controllability compared to insecure attachment. Regardless, the level of evidence required to support the convergent validity of the drawing tasks, therein potentially, for IWMs to be central to an Understanding of an Uncontrollability IT, was not forthcoming.

THEORETICAL IMPLICATIONS OF FINDINGS

As acknowledged at intervals throughout this thesis, clear theoretical differences exist between attachment theory and IT theory. However, as previously argued, if we accept one of Bowlby's (e.g., 1988) key tenets of attachment theory (see Chapter pp. 16-19), namely his conception of early experiences of attachment bonding, as creating a 'master' template underpinned at the structural level by IWMs, which subsequently inform the developmental integration of other, relationship-based behavioural systems (e.g., Hinde & Stevenson-Hinde, 1991; George & West, 2012), and; which are developing around the same time as (the foundation is being laid down for what will in later life become) problematic ITs (Ward, 2000), then: it is not unreasonable to suggest that ITs and attachment style, are underpinned, at a deeper level, by the same cognitive structures termed IWMs. Therein, using art therapy methodology, in this case simple drawing tasks, we would expect to discover that both an insecure attachment style and cognition indicative of more problematic ITs would share the same quality (i.e., more negative) of drawing content. The findings obtained in this thesis, provide tentative support for this argument, thus have important implications for the study of problematic ITs. These implications will be outlined below, beginning firstly, with a discussion focusing upon a Dangerous World IT and then an Uncontrollability IT.

A Dangerous World IT

The combined results of Studies 4, 5 and 6 support the existing literature which argues that, compared to secure, more insecure attachment types are underpinned by more negative IWM content (Bowlby, 1969, 1973, 1988). These results support existing literature linking insecure attachment to more problematic cognition implicated in sexual offenders' offensive behaviour (e.g., Cortoni & Marshall, 1998; Gal & Hoge, 1999; Keogh, 2012; Marshall & Barbaree, 1990; Smallbone & Dadds, 1998). These results also support the existing literature

(Ward et al., 2000) suggesting that IWMs are central to an understanding of problematic ITs. It is also argued, that despite the clear theoretical differences between attachment theory and IT theory, these studies, which are the first to directly link attachment style with ITs, also provide tentative evidence to support the suggestion that both attachment style and ITs are underpinned by the same core cognitive structures termed IWMs.

By consistently finding that fearful attachment scored higher DWB in Studies 4, 5 and 6, these results also support theoreticians who suggest that, compared to other attachment types, fearful attachment types, are less able to suppress their thoughts/feelings (Fraley & Shaver, 1997). In addition, whereas measurements like the Relationship Questionnaire (Bartholomew & Horowitz, 1991) are said to capture the explicit component of attachment, the findings of these studies may also be seen as providing the first concrete, albeit tentative evidence, of the more implicit component of attachment, in the form of IWMs. Consistent with the attachment literature (e.g., Bartholomew, 1990; Mikulincer & Shaver, 2007), the studies in this thesis, also support the finding in the literature that non-forensic samples contain more securely and fearfully attached individuals than preoccupied and dismissing (e.g., Bartholomew, 1990; Mikulincer & Shaver, 2007).

These studies, also provide evidence to support existing literature, from the domain of art therapy, related to the ways in which pictorial cognition, possesses particular psychological utility, especially in relation to affectively charged memories, ideas and concepts (Horowitz, 1967), and: how drawing tasks can be effectively employed to reveal intra-psychic content (e.g., Silver, 2005, 2005); Content, which can consequently, be viewed as an authentic expression of how the self organizes internally, as well as in relationship with others (Mathews & Matlock, 2011; Vrij et al., 2009). Additionally, the finding that the majority of participants in Studies 4, 6 and 8, agreed that intra-psychic content from the visualization task, had been projected onto subsequent drawings, lends support to existing literature, which advocates the

utility and reliability of projective methodology (e.g., Oster & Crone, 2004) to reflect intra-psychic content. These latter findings in particular, as they relate to art-therapy methodology, perhaps provide support that utilising art therapy, can be viewed as a legitimate form of language in itself (Dubowski, 1990) and, for theoreticians, interested in forensic cognition: to seriously consider how drawing methodology can inform investigations in forensic psychology (e.g., Vrij et al., 2010).

Furthermore, by including both a drawing-only and visualization-drawing condition (Study 8), and investigating the content of the imagery experienced during both tasks, the finding of this study potentially supports the existing literature regarding the effectiveness of visualization tasks to connect individuals to deeper levels of cognition: not ordinarily in awareness (e.g., Hass-Cohen & Carr, 2008; Siegel, 1986): This finding is perhaps also further supported by investigating the developmental/stage (e.g., childhood, adolescence, current) of visualization that participants focused upon during their visualization experiences, and: finding that the majority of participants focused on past events/memories.

The creation of a self-priming (e.g., Koole & Coenen, 2007) visualization task to tap into IWM content, thereafter implementing a variety of variables to cross-reference and validate the reported content experienced (i.e., content of visualization, post-visualization-drawing task anxiety, drawing inspired by visualization, visualization level of enjoyment): also moves us a stage beyond simply inferring the nature of participants' intra-psychic content. Once again, perhaps adding to the evidence of visualization methodology, which when combined with drawing methodology, can be said to give form to an authentic expression of how the self organizes internally, as well as in relationship with others (Mathews & Matlock, 2011; Vrij et al., 2009).

Also, by measuring for anxiety, pre and post the drawing-only, and visualization-drawing tasks (Studies 5 and 6), some support has also been garnered for the existing literature

which links higher anxiety to insecure attachment types (e.g., Ainsworth et al., 1978; Bartholomew, 1990). Studies 5 and 6, which found higher levels of post-visualization-drawing anxiety to be associated with more negative emotional content and less powerful self-image content, also lend support to the widespread assumption that connects imagery and emotion, therein: that imagery of aversive events is associated with greater anxiety (Holmes & Mathews, 2005).

An Uncontrollability IT

The results from Study 9, acquired by analysing responses on a measure of controllability, albeit failing to provide the anticipated level of significant findings, can be said to offer tentative support to the literature suggesting that an Uncontrollability IT, associated with individuals who believe they do not have agency over their actions (Ward et al., 2006), (Ward & Keenan, 1999): is correlated with lower controllability, and; with cognition (as evidenced by the BIF, Vallacher & Wegner, 1989) related to a lower level of self–agency. Furthermore, these results are in a direction to echo the literature which reports that a profile of an individual with a deficit (Fonagy, 2004) or lower-level (Vallacher & Wegner, 1989), of self-agency is associated with an insecure attachment style (Fonagy, 2004; Vallacher & Wegner, 1989). The finding that less uncontrollability was associated with higher DWB scores, may also offer some support for Ward and Keenan's (1999) suggestion that ITs form networks of inter-related beliefs, and concepts (Ward & Keenan, 1999).

With respect to the PPAT/FEATS (Gantt & Tabone, 1998) drawing tasks, employed in Study 9, to investigate the more implicit cognition (i.e., problem solving, integration, logic and realism) underpinning an Uncontrollability IT: findings were also in a direction to cautiously suggest that lower controllability is associated with lower scores on each of these measurement scales. Therefore, offering some support to the literature which reports that the structural

elements of drawings can be used to assess cognitive and intellectual functioning (e.g., Gantt & Tabone, 1998, Oster & Gould, 2004). Provisional support is also offered up in Study 9, that is in line with the literature surrounding sexual offenders' cognitive distortions: namely, that lower self-esteem (e.g., Marshall & Barbaree, 1990) is correlated with more uncontrollability.

PRACTICAL IMPLICATIONS OF FINDINGS

The findings of this thesis have several important practical implications for the research, treatment, and assessment of cognitive distortions in sexual offenders. In the first instance, the findings of the studies in this thesis demonstrate the ways in which research data can vary as a function of attachment style. It may be, as suggested in Chapter 3, that controlling for attachment style when investigating forensic cognition, with an understanding of how this construct is informed by defensive exclusions: can help to explain previously confusing and confounding results and, also usefully inform future investigative paradigms. Furthermore, as suggested in Chapter 3, the difference in forensic and non-forensic cognition witnessed by researchers (e.g., Blake & Gannon, 2010; Keown & Gannon, 2008), may be due to variability in the flexibility, adaptiveness, and intensity of the mechanisms (i.e., defensive exclusions) underlying those insecure attachment types (i.e., ambivalent and dismissing), that seem to proliferate in forensic populations. As discussed in Chapter 1 (p. 25), this thesis did not directly investigate, nor control for the presence of defensive exclusions, since in order to safely and ethically investigate these constructs, specific training in the use of the required methodology (the Adult Attachment Projective System [AAP], George & West, 2012), is necessary. Nonetheless, with the introduction of their methodology which demonstrates good predictive concordant validity with the AAI, George and West (2012) have now made this a possibility (George & West, 2012).

Furthermore, from a research perspective, it is also suggested, despite the introduction of more cutting-edge methods such as virtual reality (VR: e.g., Benbouriche, Renuad, Pelletier, & De Loor, 2016; Fromberger, Jordan, & Muller, 2018), and eye-tracking methodology (e.g., Attard-Johnson, Bindemann, & Ó Ciardha, 2016; Ó Ciardha, Attard-Johnson, & Bindemann, 2017), for investigating variables implicated in offending cognition, that: controlling for attachment should not be overlooked. It is likely that in the future, these more cutting-edge methodologies may be increasingly combined with existing research methodologies, to more directly investigate ITs, thus an understanding of how attachment may affect participant responding would be useful.

For example, we noted in Chapter 3 (p. 87) that one of the strongest predictors of sexual recidivism identified amongst CSOs, is sexual arousal to children (e.g., Seto, 2008; Seto & Barbaree, 1999). Numerous studies have corroborated the finding that an individual's eyes are usually directed towards the object of their thoughts (e.g., Ferreira, Apel., & Henderson, 2008; Just & Carpenter, 1980, 1976). With this in mind, eye-tracking technology is a non-invasive method of investigation which can be used to chart an individual's gaze pattern, viewing time and pupil dilation: a phenomenon modulated by an area in the brain referred to as the coeruleus-norepinephrine system, responsible for controlling physiological arousal and attention (e.g., Luna, Velanova, & Geier, 2008).

In a typical viewing-time paradigm to explore sexual interest, viewing time analysis is based upon the observation that individuals spend longer gazing at images they find sexually appealing, compared to unappealing or control images (e.g., Singer, 1984). Thus, the potential application of this technology to investigate whether, for example, cognitive change, as a result of treatment (e.g., evidenced by a reduction in gaze pattern when viewing images of children) has occurred within a CSO (e.g., Seto, Harris, Rice, & Barbaree, 2004), is appealing.

In this respect, Ó Ciardha, Attard-Johnson, and Bindeman, (2017) conducted an

experiment with 102 community males in which pupil dilation of heterosexual, homosexual and bisexual men was recorded. Ó Ciardha et al. (2017b) found, whilst viewing images of adults and children, that pupil size changed in ways that reflected participants' self-reported sexual orientations (Ó Ciardha et al., 2017b). Additionally, Ó Ciardha et al. (2107b) also found that changes in pupil dilation corresponded with sexual age preferences for adults over children (Ó Ciardha et al., 2017b). The authors say the overall significant results of their study, provide preliminary support for their hypotheses, and evidence for pupil dilation as a measure of both sex and age specific sexual preferences (Ó Ciardha et al., 2017b).

However, it has been shown, also using eye-tracking technology, that the changing dynamic of the attachment system (e.g., falling in love, being pregnant and having children), across the lifespan, can have an impact upon adult attentional bias to images of children (Jia et al., 2017). In other words, being at a stage in life where thoughts of having children are uppermost in one's mind, can increase attentional bias towards child stimuli (e.g., Jia et al., 2017). Hence, findings like these related to attachment style, are important to consider when using this methodology to research or assess the cognition/sexual interest of CSOs.

The practical applications of art therapy methodology to the treatment, assessment and investigation of forensic cognition/problematic implicit theories are many and varied. Art-therapy methodology is a tool with the potential to open up a window into the phenomenological world of the individual in ways that, perhaps, other methodologies cannot (e.g., Appendix VII). The primacy of the client's eyes and minds as, through the art product, they directly experience the products of their own self-expression, using capacities such as conscious self-reflection: capture an individual's phenomenological experiences, in ways that words alone cannot (e.g., Betensky, 1995). In addition, engagement of the imagination in the artistic process, enables people in the present to make connections, not only with the past, but

also the future (Beaney, 2005): presenting opportunities for insight and updating of outdated belief systems which are not best serving the interests of an individual.

For example, Bowlby, whose conception of attachment can be mapped onto a social cognitive perspective of cognition (Chapter 1, p. 30, Table 3), regarded IWMs as evolving (e.g., dynamic) entities, with the potential to be updated through heightened awareness (Wallin, 2007). This concept has important implications for the treatment, and thus modification, of problematic ITS. Theoretically, if problematic ITs are underpinned by more negative IWMs, updating IWM content, should simultaneously serve to modify problematic ITs. Consequently, using drawing methodology to transform IWM content into visible forms of experience, provides an opportunity for an offender to develop a more heightened awareness of the distorted cognition underpinning, and thus perpetuating his or her offending cycle (e.g., Appendix VII). Offering up opportunities, in the process, for the development of those skills implicated in the skill of introspection (as discussed in Chapter 1, p. 14, see also, Nisbett & Wilson, 1977), with the potential goal of also increasing victim empathy: as mentioned in Chapter 1 (p. 14), a goal of many treatment programs (e.g., Hennessy et al., 2002).

This line of thinking also extends itself to helping psychologists determine whether, because of a treatment intervention, genuine cognitive change has taken place at a deeper, more structural level of processing. For example, an understanding of the reciprocal, recursive, dynamic process (Hollon & Kriss, 1984) of cognition, means that if genuine cognitive modification has taken place, this will make itself visible at a structural level of cognition; via specific drawing tasks designed to monitor and evidence this.

From an assessment perspective, the practical applications of the methodology are also many and varied. For example, if the methodology used in the current study is strengthened by further investigation along the lines identified above, this may enhance the ability of psychologists to distinguish between genuine cognitive distortions, and excuses and/or

justifications. For example, if we consider that collectively, visualization content, EC and SI could be reflective of negative IWM content (i.e., the implicit component of a Dangerous World IT), then we would expect the IWM content of individuals who have committed offenses with a *genuine* DWB belief to be reliably and significantly more negative (over time) than for those individuals who are just verbalising excuses and justifications. Being able to distinguish offenders with a genuine Dangerous World IT, would have important implications for not only assessing and managing risk of reoffending but also treatment interventions. For example, it is likely that different interventions and approaches could be implemented for offenders with a genuine core belief, as opposed to those using the sentiments associated with this belief to excuse or justify their behaviour.

Similarly, for those individuals expressing an authentic Uncontrollability IT, we would not only expect their IWM content to be reliably and significantly more negative (over time) than for those individuals who, are creating a psychologically comfortable position that enables offending to continue (Walker et al., 2013) in the form of excuses and justifications, but: we would also expect to find, using drawing tasks such as the PDT (Silver, 2002), a consistent deficit in those abilities associated with the skill of conservation. In this way, the implementation of art therapy methodology, may quite literally, draw us closer to being able to distinguish genuine cognitive distortions from excuses or justifications.

Furthermore, from a risk assessment perspective, the methodology employed in this study could also be adapted to monitor sexual offenders on probation in the community. Research informs us of how stressful episodes trigger much offending (Ward et al., 2006a). Also, Marshall and Barbaree (1990) talk about how transitory situational and external factors can overpower inhibitory controls leading to sexual offending (Marshall & Barbaree, 1990). In Chapter 8 we looked at drawing data (Figure 14, p. 235) from one participant who had provided written feedback on his inner feelings, in relation to an external transitory event (i.e., the Paris

attacks of November 13, 2015). If assessment tasks using drawing methodology were included within a battery of assessment tools (e.g., alongside mandatory polygraph testing), this data could provide additional and valuable information related to an offender's intra-psychic content, and how external events may be impacting upon stress levels.

For example, assessed at regular intervals, a change in the content of an offender's drawing content could alert professionals to areas that require further attention or investigation. Similarly, bearing in mind the increase in self-harm amongst offenders (Ministry of Justice, 2018), this quick and easy to monitor methodology, could be used to assess the mental well-being of offenders, enabling clinicians to be alert to changes in the pattern of data therein; or a possible cry for help, as with the drawing by another participant highlighted in Chapter 8 (p. 246, Figure 22) entitled, 'Only I Know'.

LIMITATIONS AND FUTURE RESEARCH

The present analysis has illustrated the ways in which art therapy methodology and attachment theory can be utilized to further an understanding into problematic ITs. However, there are a number of limitations within the current thesis, which raise interesting possibilities for further research on the topic. This section will outline these limitations and will attempt to link them with suggestions for future research.

A very important caveat in the research reported in this this thesis, is that the studies used student samples. Attempts were made to access a forensic population to carry out research for the Dangerous World IT, however, permission was not forthcoming in time for this thesis: Future research could seek to employ a forensic population, wherein, according to the literature, problematic ITs (e.g., Ward, 2000), insecure attachment (e.g., Cortoni & Marshall, 1998; Gal & Hoge, 1999; Keogh, 2012; Smallbone & Dadds, 1998), and lower levels of self-agency (e.g., Fonagy, 2004) are more prevalent. It may be that significant results for an

Uncontrollability IT, using the same paradigm as in Study 9, may be returned, and that the effect sizes for the Dangerous World IT paradigm, would be improved upon.

With respect to the ecological validity issue and the fact that we were not able to obtain a forensic sample for these studies, we could potentially, though very tentatively apply, the principles of *proximal similarity* (e.g., Brunner, 1987): Thinking about the characteristics of the population that we would like to generalize our results to, we know, as stated above, that an insecure attachment style proliferates within offending populations, with sexual offenders also demonstrating a vulnerability to the development of a more insecure attachment style (e.g., Ward et al., 1996). Therein, if we focus only upon the results obtained from the insecurely attached participants in our studies, who returned evidence indicative of more problematic ITs: we could say that with these participants, exists a gradient of similarity to the population that we want to generalize to. Realistically, however, this issue needs to addressed by conducting future research with the target population.

Equally, it may be that a more sophisticated controllability measurement is necessitated, thus future researchers could seek to explore this area. For example, as suggested in Chapter 8, perhaps a controllability measurement, designed in a similar manner to the DWB measurement (e.g., in this case, composed from other measurements which tap into cognition associated with an Uncontrollability IT, such as Rotter's (1966) locus of control measurement): may improve the quality of the data collected in these studies. Future directions suggested by this research, also include the need for more studies to investigate whether DWB is a trait, or state variable.

For measuring attachment, although Bartholomew's Relationship Questionnaire (Griffin & Bartholomew, 1994) was chosen mainly due to its brevity in an attempt to avoid participant overload, future studies could employ a more sensitive attachment measurement in an effort to explain more variance in a DWB and an Uncontrollability IT.

As pointed out in Chapter 4 (p. 108), there are methodological issues arising from art based assessment measures, which have tended to revolve around reliability and validity (e.g., Betts, 2006; Handler & Thomas, 2014; Gantt, 2004). For example, as for the studies in this thesis, even though drawings are objectively scored, ratings of graphic elements are by default subjective and their evaluation may differ depending on raters (White, Wallace, & Huffman, 2004). With this in mind, the degree to which a rater likes a drawing, has been shown to impact upon the way that the drawing is rated (White et al., 2004): We cannot be sure that this issue did not apply to the studies in this thesis.

Perhaps future studies using drawing methodology could seek to introduce a simple Likert-type question related to how much a rater likes each drawing that they score, so that this issue can be controlled for. It may be that the problem of inconsistency between raters, or low inter-rater reliability will always be an issue, with high reliability requiring special training. There have been several attempts to computerize art interpretation, but this too presents its own difficulties, such as the difficulty for a computer to interpret a free drawing of vast subjects because present computer technology cannot identify its forms (Kin-man Nan & Hinz, 2012). It is argued that the methodological issues surrounding art-based measurements, which may deter some psychologists from their use, will be increasingly remedied, the more that art therapists and psychologists collaborate in the clinical assessment and treatment planning process, using drawing based measures. It must also be noted, that when engaging in a drawing task, an individual may alter their drawing in an effort to hide particular feelings and information. For example, the repetition of fixed images (e.g., a circle, or square) in a drawing, can indicate use of a defensive image (e.g., Hinz, 2009). Thus, researchers need to be aware of this possibility.

Although the main premise of the art therapy-based methodology used in this thesis, has been the ability of this approach to tap into those non-verbal components of cognition that

represent IWM content, there are questions around this also. For example, how sure can we be that these psychological constructs referred to as IWMs, actually exist, even if they do: how certain can we be that drawing methodology such as that employed in this thesis, is tapping into these constructs. Perhaps these are limitations to the research conducted in this thesis. With reference to the first issue, the same arguments that apply to the investigation of all hypothetical constructs within psychology is pertinent: Hypothetical constructs are explanatory variables, which have no single referent, instead being composed of groups of functionally related behaviors, processes, experiences and attitudes. For example, instead of seeing love, intelligence or fear, we see indicators or manifestations of what we have collectively agreed to call love, intelligence, or fear, or: in the case of attachment theory, and this thesis – instead of seeing IWMs, we see indicators of these constructs in the form of attachment style measurements and related indices. Therein, the majority of evidence for the existence and structuring of IWMs has been inferred, in the case of infants, from their behaviour (i.e., Ainsworth et al., 1978), whilst for adults: IWMs have been inferred from self-reports of how they perceive themselves and others in relationship (e.g., Mikulincer & Shaver, 2007; Pietromonaco & Feldman Barrett, 2000).

However, some notable studies (e.g., Baldwin et al., 1993; Collins, 1996; Fishtein et al., 1999; Fraley & Shaver, 1997; Mikulincer, 1995, 1998a, 1998b) have employed implicit measures such as reaction time, recall, coding of open-ended inferences, and physiological measures, which are said to provide a stronger basis from which to infer attachment-related cognitive processes (Pietromonaco & Feldman Barrett, 2000). Feldman et al. (1999) have compared explicitly generated reports of IWM content with implicit responses derived from the IAT (Feldman et al., 1999). Amongst other findings, the studies referred to above, have, importantly, in the context of the research conducted in this thesis: demonstrated attachment style differences in the accessibility and recall of positive and negative content (Baldwin et al,

1993; Mikulincer, 1995). Additionally, those studies using more implicit approaches, have yielded findings that are generally consistent with studies using solely self-report measures (Pietromonaco & Feldman Barrett, 2000). It is argued that, evidence in the form of drawing methodology may be the closest we come to actually being able to 'see' and/or give form to the hypothetical constructs we term IWMs, enabling us to become more confident of their existence.

Perhaps future research to improve the validity of drawing methodology to tap into and make visible IWM content for empirical investigation, could involve designing an experimental paradigm (informed by a social cognitive perspective), together with some of the above-mentioned studies. The initial goal of this research would be to triangulate evidence in support of Bowlby's tripartite conception of attachment (see Chapter 1, pp. 27-30, see also Table 3, Chapter 1, p. 30). Ideally, researchers would seek to demonstrate a meaningful relationship between the three cognitive facets implicated in attachment style at: (1) a product level (i.e., attachment style: using the AAI; George, Kaplan, & Main, 1985; Main, Kaplan, & Cassidy, 1985); (2) a process level (i.e., defensive exclusions: using the AAP; George & West, 2012), and; (3) a structural level (i.e., IWMs, using drawing tasks and perhaps Feldman's (1999) IAT approach). If this initiative were successful, then it could have important implications for Ward's (2000) IT theory of cognitive distortions, which suggests that problematic ITs are underpinned by IWMs (Ward, 2000): by strengthening this claim.

It may be that other drawing tasks could be explored in relation to the deeper cognition underpinning an Uncontrollability IT. Additionally, future researchers may also want to utilise more of the FEATS scales to measure other PPAT drawing content, and to adapt the PPAT task so that it is a more challenging task. Ultimately, the experimental paradigm for investigating an Uncontrollability IT, requires more attention and refinement.

Although only a Dangerous World and Uncontrollability IT were the focus of this thesis, future research using a variant of the same paradigm created for this thesis, could seek to investigate some of the other ITs (e.g., Chapter 2, pp. 46-48), said to be held by offenders.

As this thesis draws to a close, it is worth noting it could be argued that the overlap between a Dangerous World IT (DWB) and more negative IWM content, are really just all measuring the same thing - dangerous world perceptions, in which case it makes no sense to measure their relationships, since it is tautological. However, as discussed in the Introduction, one of the main aims in conducting this research was to reappraise and thus explore the shared association posited to exist at the more *structural* level, between the Implicit Theories (IT) theory (Ward, 2000; Ward & Keenan, 1999) and Attachment Theory, (Bowlby, 1969/1982, 1973, 1980). In this way, we hoped to gather evidence to show that problematic ITs, associated with an insecure attachment style (both of which appear to be formed during early pre-verbal development) are *underpinned* by the same unobservable core cognitive constructs referred to as IWMs. Therein, if we accept that the drawing task methodology employed in this research is tapping into the more unobservable component of the type of cognition underpinning both a Dangerous World IT (DWB) and insecure attachment style, then: as argued in Chapter 2 (see pp. 48-50, including Table 6 on p. 50) we are measuring this construct at both the product (e.g., perceptual level) and structural (e.g., deeper cognition associated with beliefs) levels of cognition: thus, this is not one and the same thing, or a different way of measuring the same thing per say.

Furthermore, in those instances where the content associated with these different levels and measurements demonstrates a profile of: a higher DWB, a more insecure attachment style and more negative IWM content; then we may be more confident that the individual in question is expressing an authentic DWB. However, in those instances where the data lends itself to a profile which seems to indicate perception of a DWB as being high, yet the drawing data (i.e.,

IWM content) for this same individual is positive: it may be that this individual is evidencing a post-hoc excuse or justification. Thus this methodology may help to complement existing initiatives devoted to distinguishing authentic form inauthentic cognitive distortions.

It may well be that problematic ITs, as they have come to be known, are manifestations of different types of insecure attachment styles both of which are connected by virtue of being products of the same underlying core cognitive content. If further research is able to gather more direct evidence for this link, then it is suggested the shared association of the IT theory with attachment theory, an established and well regarded theory which informs many psychological domains: will add to the internal coherence, external consistency, unifying power and explanatory depth of the IT theory. In addition, if this link is established it can open up new fruitful avenues of research and attachment oriented treatment for problematic ITs, such as those discussed above (see pp. 260-262).

In general, the findings of the current studies also suggest that the easy-to-implement, and cost-effective visualization and drawing methodology employed herein, may complement future research into cognitive distortions. We saw in Studies 4, 5 and 8, that the majority of participants agreed their visualization content was projected onto subsequent drawings. To recap, the visualization part of the task was used as a self-priming task (e.g., Koole & Coenen, 2007), so rather than infer that visualization content informed subsequent drawings, this was directly investigated and impacted upon results in a meaningful way. Hence, the inclusion of visualization tasks into experimental paradigms may go some way towards countering those criticisms of other indirect methodologies used to investigate forensic cognition, in that they: lack priming ability (e.g., Gannon et al., 2006), and involve tasks that are too far removed from reality to tap into information processing biases (e.g., Keown et al., 2008).

At this point, it is perhaps pertinent to note that, like successful visualization methodology, the successful hallmark of VR use (increasingly being employed to investigate

areas related to forensic cognition, e.g., Ackerman & Thomas, 2018; Benbouriche et al., 2016; Fromberger et al., 2018), similarly depends upon achieving a high level of a 'felt sense of presence' (e.g., Alsina-Jurnet, Gutierrez-Maldonado, & Rangel-Gomez, 2011; Benbouriche et al., 2016). For VR, this necessitates a high degree of participant immersion and identification with the world that is being depicted and the avatar (e.g., Alsina-Jurnet et al., 2011; Benbouriche et al., 2016). However, not only is this felt sense of presence not always going to be achievable (e.g., via a lack of identification with the avatar), unlike visualization methodology, VR methodology is costly and can only be used in the presence of trained experimenters or physicians. Furthermore, simulation sickness is an issue for some participants (e.g., Fromberger et al., 2018).

Perhaps more importantly, in its early stages of development and use, the ethical and legal aspects of this approach are still an unknown quantity (Fromberger et al., 2018), with VR experiments cited as having the potential to cause serious and lasting harm to participants (Fromberger et al., 2018). It is suggested that visualization tasks are easier to implement and just as likely to engender a good level of a felt sense of presence (e.g., Alsina-Jurnet et, al. 2011). This is something that could be investigated as a post-experiment question, for example, a simple Likert-type question to ascertain the level of felt presence experienced by participants; in retrospect, this may also be a limitation of the current studies, in that this was not included as a research variable. In this regard, it was encouraging that all participants in the current studies were willing to engage with the novelty of the visualization and drawing tasks, which bodes well for using this methodology in future research.

In closing, I wish to echo the sentiments of Vrij and colleagues, who suggested that, within the domain of forensic psychology, drawings as a research tool need to be more seriously considered (Vrij et al., 2009). It is hoped that the conceptualisation of art therapy methodology as a forensic tool to assess cognitive distortions and a focus on attachment as a

research variable, that has been put forth in this thesis, will add to the existing research endeavours to create exciting new methods of assessing implicit cognition.

SUMMARY

In sum, the current thesis examined the ability of a novel paradigm utilizing methodology form the domain of art therapy to investigate cognition implicated in a Dangerous World and an Uncontrollability IT: whilst acknowledging the theoretical differences between attachment theory and IT theory, this research was contextualized within a framework which involved reappraising the shared association between the Implicit Theories theory (Ward, 2000; Ward & Keenan, 1999) and Attachment theory (Bowlby, 1969/1982, 1973, 1980). A Dangerous World IT was explored first, followed by an Uncontrollability IT. As such, the findings of this thesis, though not wholly as anticipated, have important theoretical implications for the research into problematic ITs. It appears that art therapy methodology may be used to provide psychologists with evidence of the implicit cognition informing problematic ITs. There are also important treatment and assessment implications related to the cognition informing cognitive distortions, within the body of findings for this thesis

Despite the theoretical and practical implications of the work in this thesis, there are important limitations which have been outlined. These limitations need to be addressed in further research into this topic. Future research may include another measure of attachment, a more sophisticated measurement of controllability, an adapted and more challenging PPAT drawing task for investigating the deeper cognition implicated in an Uncontrollability, and additional FEATS scale analysis of PPAT drawing content, additional questions to control for Finally, and most ideally, the Dangerous World research could be conducted with a forensic sample.

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APPENDICES

APPENDIX I

Fonagy's Developmental Model of Self-Agency

Fonagy's Developmental Model of Self-Agency

In normal development we are said to acquire five increasingly complex levels of agency of the self: the physical, social, teleological, intentional and representational: Acquisition of each level is necessary to form a coherent and robust autobiographical sense of self (Fonagy, 2004; Fonagy et al., 2002; Gergely, 2001). Self-agency enables us to link memories of intentional activities, experiences and actions into a coherent causal-temporal organization (Povinelli & Eddy, 1995); in turn, these are linked to the development of self-representations and an awareness of personal history (Fonagy et al., 2002). Within individuals, acquisition of this emergent construct, brings about an understanding that it is 'I' who is thinking 'those' thoughts, initiating, executing and controlling my actions (Fonagy, 2004).

1. **Physical agency, 0-6 months.** At this stage, there is a developing awareness within the baby that his actions produce changes on the physical environment, and in bodies with which he has immediate physical contact. The baby develops a growing understanding that he is a physical being with a force that can be the source of action. For example, kicking a mobile produces a change: something moves. Actions at this stage are however devoid of intention.

2. **Social agency (3-9 months)** develops alongside physical agency and is the infant's understanding via interactions with the caregiver, of himself as a social agent. Through the vehicles of *synchrony* and *marking*[1] the infant develops an awareness that: his communicative displays/actions, produce behavioral and emotional mirroring responses in other people.

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[1] Within the context of attachment, by synchronizing with a baby's (affective) feeling state, the caregiver literally tunes into the type of affective arousal (i.e., fear, pain, happiness) that the baby is experiencing. When this is distress, the caregiver will employ mechanisms such as voice (i.e., 'motherese': a high pitched vocalization of positive/caring affect, Feldman & Eidelman, 2007). Facial expressions (i.e., eye contact which conveys caring) and perhaps gentle arm-rocking to calm the baby, are also employed. Thus the baby eventually comes to experience a coordinated and synchronistic match between their own state and the response of the social environment as initially mediated by the caregiver (Hofer, 1995). Overtime, by observing and experiencing the caregiver's responses, the baby will gradually begin to lay down his own internal mental representations for differentiating between specific internal bodily feelings that will eventually be identified in later life, as different emotions: both in himself and others (e.g., Fonagy, 2004; Howe, 2005). Marking is the term given to those mirroring displays (also known as social biofeedback: Gergely & Watson 1996, 1999) of affect by the caregiver, largely conveyed by facial expressions: similar to those playfully, emotional displays that we might witness in a play or a cartoon

3. Teleological agency (9-24 months). Actions are now said to begin to develop the early seeds of a sense of intentional purpose towards achievement of a goal. The capacity to choose an action to bring about a desired outcome begins to be realized. For example, the baby now knows that choosing to his leg upwards to connect with the hanging mobile in the cot will change something in the environment (i.e., make the mobile move). Intention is not yet said to be recognized as separate from action, though actions can now be thought of as means to an end (e.g., Fonagy, 2004; Knox, 2011). Eventually the baby develops the ability to choose the most efficient way to bring about a goal from a range of alternatives (Fonagy, 2004; Knox, 2011). Experience of the agentive self is still however limited to one of physicality (Fonagy, 2004). Towards the end of this phase (approximately 18 months) those areas mainly located in left hemispheric brain regions, and implicated with the acquisition of verbal conceptual cognition also begin to come on line (e.g., Gazzaniga et al., 2002; Kalat, 2007). Up until this point, information has been encoded and processed in embodied and pictorial modes of cognition (e.g., Piaget, 1952, 1959).

4. *Intentional agency (2 years).* Sometime during their second year, infants begin to develop a sense of agency that is *mentalistic* (Fonagy, 2004; Knox, 2011). They now begin to understand that they are intentional agents whose actions are caused by prior mind states, like desires and ideas (Fonagy, 2004; Wellman & Phillips, 2000). Actions can be understood as not only bringing about changes in bodies, but also in other minds: Actions can change mental states (e.g., Corkum & Moore, 1995; Fonagy, 2004; Knox, 2011). According to Fonagy's model of self-agency, mind-aware, interpersonal interaction (*mentalization*) is essential for the development of robust internal representations of internal states, which contribute to this developmental level of self-agency (Fonagy, 2004; Knox, 2011). Self-agency now begins to develop in parallel with incrementally more sophisticated brain mechanisms, which are
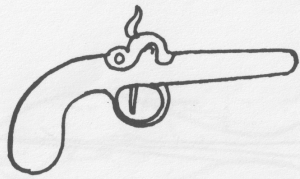
Appendix II

Stimulus drawings for Silver's (2002)
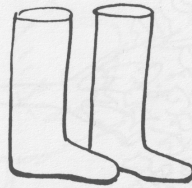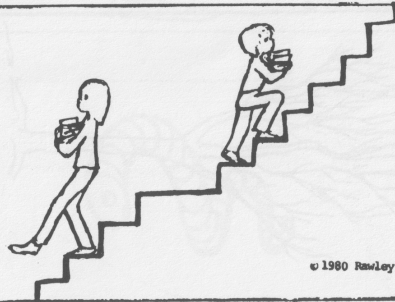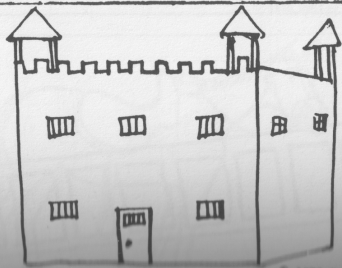# Drawing from Imagination task
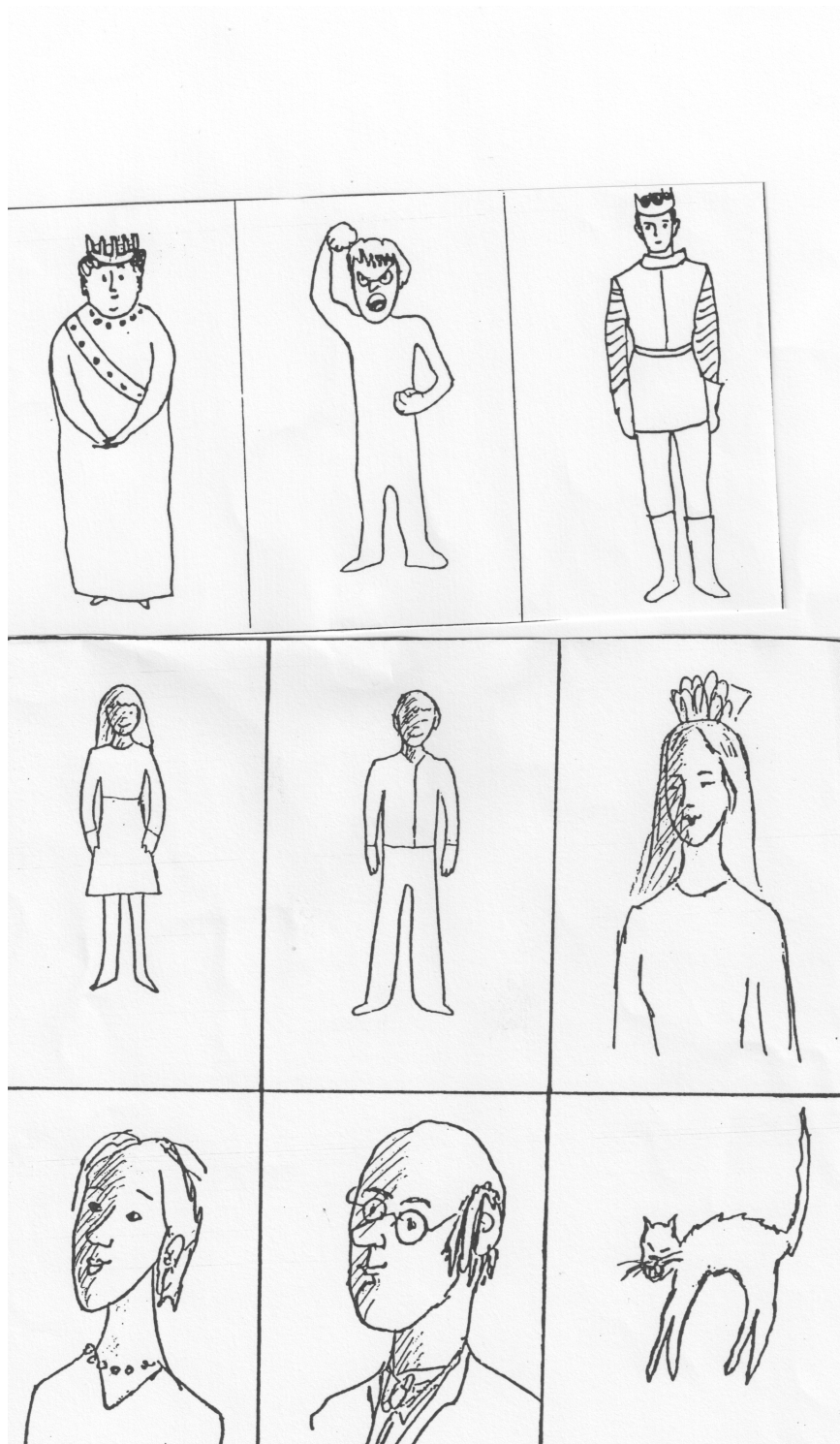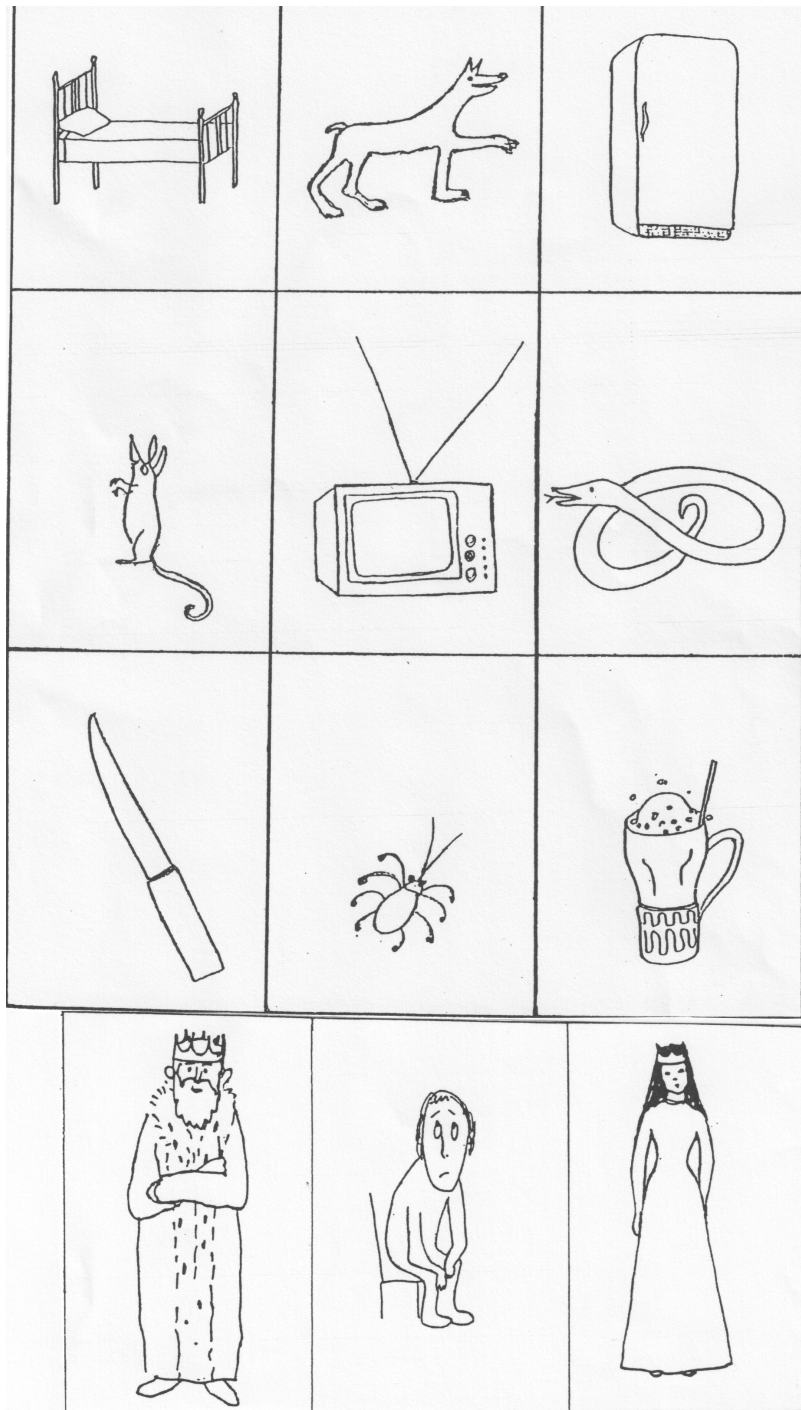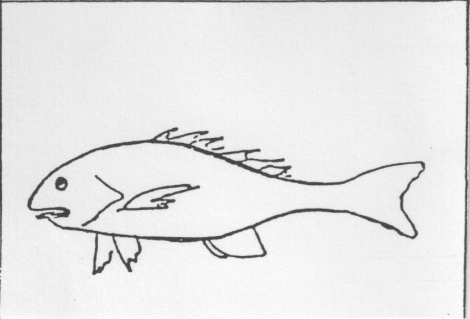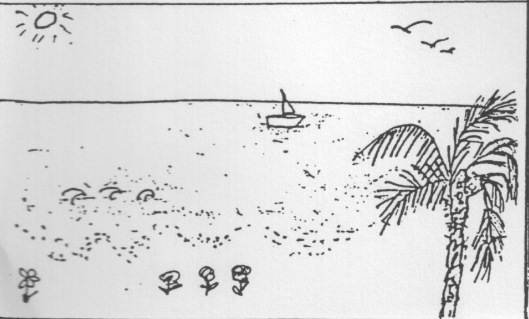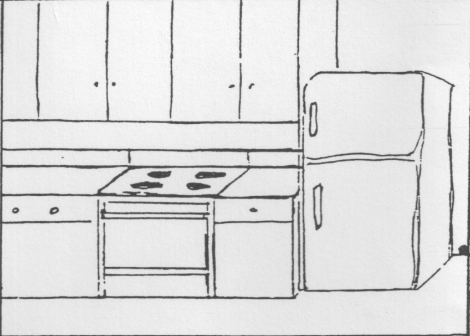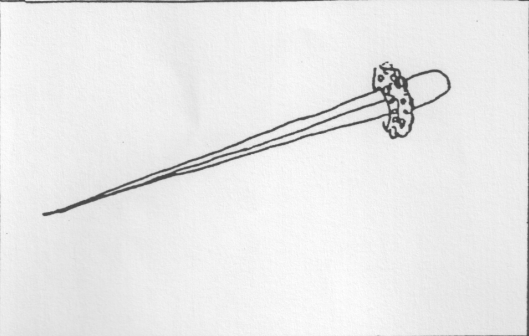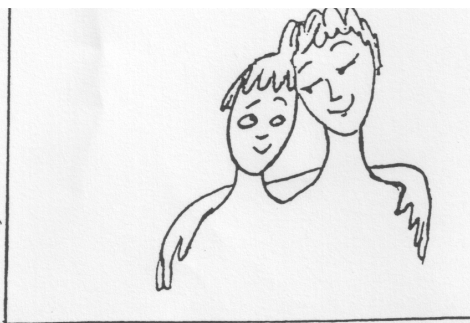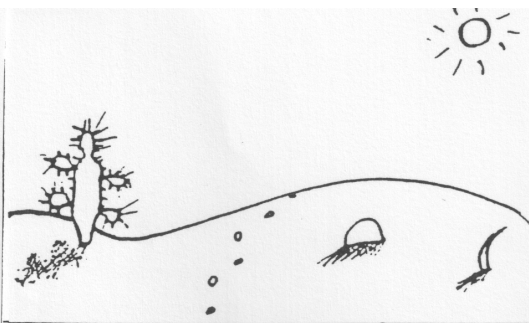
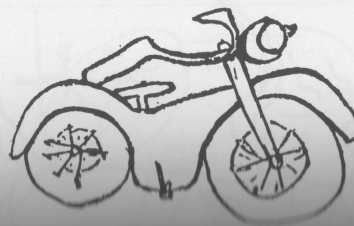© 1980 Rawley Silver

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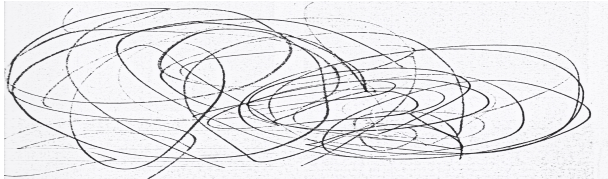© 1978 Rawley Silver

© 1978 Rawley Silver

beginning to come on line, associated with verbal conceptual cognition (e.g., Gazzaniga et al., 2002; Kalaat, 2007).

5. Representational agency (3-4 years). At around three to four years of age, understanding of agency as it relates to mental causation, involves the infant understanding that his intentional mind states (i.e., desires/beliefs) are representational (i.e., ideas) and therefore symbolic in nature (e.g., Wellman, 1990). Symbols can be used for thought. In play, one thing can symbolize another: perhaps a banana becomes a phone for a while. The capacity for symbolic representation of one's own mental states is an essential pre-requisite for a sense of identity (Fonagy, 2004; Howe, 2005; Knox, 2011). The representational agentive self is said to create an illusion of coherence within representations of self by attributing agency (accurately or inaccurately), assuming that mental states exist to explain experience (Fonagy, 2004). Acquisition of language now brings with it the ability to generalize knowledge across multiple contexts: This skill is considered by many to be the hallmark of higher order thinking and reasoning (Gelman & Kalish, 2006). Importantly, this level of development is that which bridges the gap between implicit and explicit understanding (Juan & Astington, 2011).

6. Autobiographical self (5-6 years). The child now develops the ability to link memories of intentional activities, experiences and actions into a coherent causal-temporal organization (Povinelli & Eddy, 1995), linked to self-representations and an awareness of personal history (Fonagy et al., 2002). The infant will understand that it is 'I' who is thinking those thoughts, initiating, executing and controlling my actions (Fonagy, 2004).

APPENDIX IV

Complementary Creative Developmental Sequence

Cognitive developmental Stage according to Piaget (1959, 1967)	Generally agreed description of 6 developmental stages of drawing according to Lowenfeld (1947); see also, Oster & Crone, 2004)	Examples of graphic markers
Sensorimotor Birth through to ages 18-24 months	**Scribble Stage (1-3 years old)** Scribbling (said to be similar to an infant's babbling speech). Children are said to be engaged in the physical activity and exploration of drawing and the enjoyment of mark-making.	
Preoperational 18/24 months through to early		

| childhood around 7 years of age | **Preschematic Stage (3-4 years old)**

Emergence of tadpole stage: drawings represent a circular head with appendages.

Circles and lines may be described as people or objects that are physically present in the child's life. Child makes first attempt to connect and communicate through their drawings. |

 |
| | **The Schematic Stage (5-6 years old)**

Children have clearly assigned shapes to those objects that they are attempting to communicate about. Important objects are often drawn larger than those of lesser importance. Children have often come to develop a schema for the drawings they create at this stage. For example, a | |

circle for the head, a rectangular/ladder-like structure for the body or a triangular shape and so on: *see notes at end of this section.*
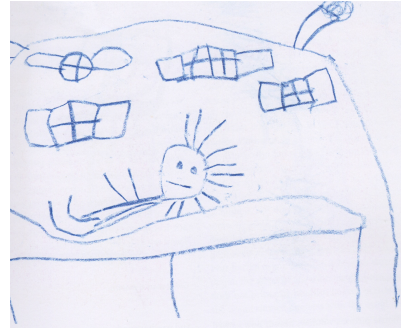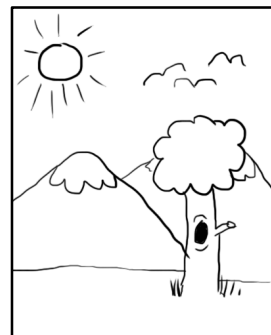

| **Concrete operational**

Ages 7 through to 12 years of age | **The Dawning Realism (7-9 years old).**

There is a growing awareness that a structured order to drawing objects is insufficient. Schemas are still used for creating drawings however, they tend to be more complex than employed in earlier | |

	stages. A sense of spatial relationships and of overlapping tends to accompany this stage. . **The Pseudo-Naturalistic Stage (10-13 years old).** At this stage of creative development, children are often quite critical of their drawings and strive for a sense of realism in their work.	
Formal operational Adolescence through to adulthood	**The Decision Stage (13-16 years old).** Children at this stage will invariably decide to make the decision to continue drawing or begin to view it as an activity without merit.	

Notes: Fascinating work by Strauss (1988), though from an anthroposophical perspective,

Fiske's (e.g., 2004a, 2004b) Relational Models Theory (RMT), posits that there are four fundamental, basic, innate and universal ways people relate to, judge one another in social interactions and anticipate social situations. Interaction is said to be structured according to what: (1) people have in common (known as Communal Sharing: e.g., kinship, being followers of the same leader and so on), (2) known as Ordered Differences (authority ranking: age, seniority, appointment by higher authority), (3) additive imbalances (known as Equality Matching Model: even balance being the reference (baseline) point; e.g., turn-

taking, eye for an eye, reciprocal exchange of favours), or (4) ratios (known as Market Pricing: money is common medium for this model of interaction, although not necessary; for example, this way of interacting can be "Is what I'm getting out of this relationship proportional to what I am putting into it?" (Fiske, 2004a, p. 6). Importantly, these interactional models are said to be operating at an implicit level.

Bolender (2010) talks about how the significance of what Fiske (e.g., 2004a) has discovered has not been fully appreciated, saying that this reveals an "important link between cognitive science and the social sciences (Bolender, 2010, p. 60). Bolender (2010) argues that Fiskes's relational models theory is not a theory of interpersonal relations, but of how we think about interpersonal relations: though the former is dependent upon the latter. In other other words, it is a theory about a class of mental representations/schema (Bolender, 2010). In addition, Bolender (2010) argues that there is a fifth schema.

What is potentially interesting and applicable to forensic cognition, is that RMT is said to have some applications to abnormal psychology (Haslam, 2004b) with each personality disorder being understood as an over or under-reliance upon one or other elementary model. For example, a controlled study has shown that individuals with narcissistic personality tend to have a high need to recognize the self as occupying the higher status end of the authority ranking relational model (Haslam, Reichert, & Fiske, 2002): Thus there is an over reliance on on this model, conversely, there is an under-reliance on the Equality Matching Model. The personality disorders are said to be better analysed in terms of RMT than the classic interpersonal circle measure (Leary, 1957; Wiggins, 1979). In short, Bolender (2010) argues that RMT applies to a strikingly broad range of cognitive phenomena (Bolender, 2010).

Appendix III

Silver's (2002) Emotional and Self-image Scales and Guidelines

| SCALE & GUIDELINES FOR SCORING EMOTIONAL CONTENT	
1 point	**STRONGLY NEGATIVE THEMES**, for example.. Solitary subjects portrayed as sad, isolated, helpless, suicidal, dead, or in mortal danger. Relationships that are destructive, murderous, or life-threatening.
2 points	**MODERATELY NEGATIVE THEMES**, for example.. Solitary subjects portrayed as frightened, angry, dissatisfied, assaultive, destructive, or unfortunate. Relationships that are stressful, hostile or unpleasant.
3 points	**NEUTRAL THEMES**, for example, Ambivalent, both negative and positive, Unemotional, neither negative nor positive. Ambiguous or unclear
4 points	**MODERATELY POSITIVE THEMES**, for example, Solitary subjects portrayed as fortunate but passive, enjoying something, or being rescued Relationships that are friendly or pleasant
5 points	**STRONGLY POSITIVE THEMES**, for example, Solitary subjects portrayed as effective, happy, or achieving goals. Relationships that are caring or loving

|	SCALE & GUIDELINES FOR SCORING SELF IMAGE CONTENT
1 point	**MORBID FANTASY,** respondent seems to identify with a subject portrayed as sad, **helpless**, isolated, suicidal, dead, or in mortal danger. Look out for levels of identification in the title vis a vis personal pronouns: **first person singular/plural** - I, me, my, mine, myself, we, us, our, ours, ourselves.
2 points	**UNPLEASANT FANTASY,** respondent seems to identify with a subject portrayed as frightened, frustrated or unfortunate**.** Look out for levels of identification in the title vis a vis personal pronouns: **first person singular/plural** - I, me, my, mine, myself, we, us, our, ours, ourselves;
3 points	**AMBIGUOUS OR AMBIVALENT FANTASY,** respondent seems to identify with a subject portrayed as ambivalent or unemotional, or else the self-image is unclear or invisible….i.e., Look out for levels of identification in the title vis a vis personal pronouns: **second person singular/plural** - you, your, yours, yourself, yourselves; **third person masculine/feminine/neutral** – he/she, him/her, his/hers, himself/herself, it, its, itself, they, them, their, theirs, themselves.
4 points	**PLEASANT FANTASY**, respondent seems to identify with a subject portrayed as fortunate but passive, such as being rescued Look out for levels of identification in the title vis a vis personal pronouns: **first person singular/plural** - I, me, my, mine, myself, we, us, our, ours, ourselves;
5 points	**WISH FULFILLING FANTASY**, respondent seems to identify with a subject who is **powerful**, loved, assaultive, or achieving goals. Look out for levels of identification in the title vis a vis personal pronouns: **first person singular/plural** - I, me, my, mine, myself, we, us, our, ours, ourselves.

APPENDIX V

Silver's (2002) Predictive Drawing Tasks


Figure 2.1. The SDT Predictive Drawing Task

Suppose you took a few sips of a soda, then a few more, and more, until your glass was empty. Can you draw lines in the glasses to show how the soda would look if you gradually drank it all?
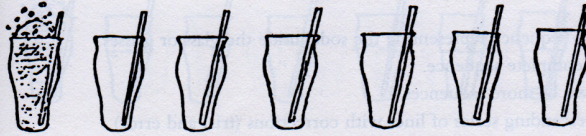
Suppose you tilted a bottle half filled with water. Can you draw lines in the bottles to show how the water would look?

half-filled →   half-filled bottle that is tilted.
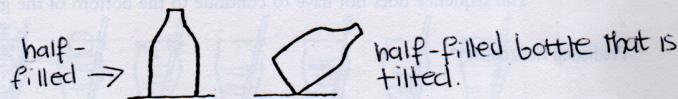
Suppose you put the house on the spot marked x. Can you draw the way it would look?
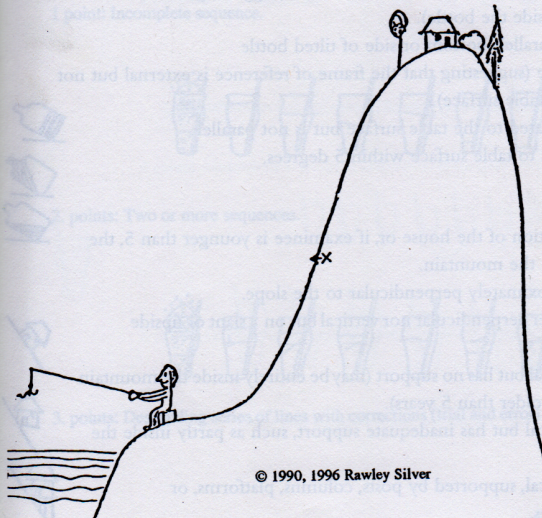
© 1990, 1996 Rawley Silver

Appendix VI

Gantt & Tabone's (1998) PPAT/FEATS scales

Picture #: _____

Rater: _____

FORMAL ELEMENTS ART THERAPY SCALE (FEATS)©
RATING SHEET

Linda Gantt, Ph.D., ATR-BC, & Carmello Tabone, M.A., ATR

The FEATS uses scales that measure **more or less** of the particular variable. Look at the degree to which a picture fits the particular scale by comparing the picture you are rating with the examples in the illustrated rating manual. **You may mark between the numbers on the scales.** Approach the picture as if you did not know what it was supposed to be. Can you recognize individual items? If you have a picture that is hard to rate, do your best to compare it to the illustrations and the written descriptions. Do not worry whether your rating is the same as another rater's. Concentrate on giving your first impression to the variable being measured.

#1 - Prominence of Color

Color used for   0 | 1 | 2 | 3 | 4 | 5   Color used to fill
outlining only   all available space

#2 - Color Fit

Colors not related   0 | 1 | 2 | 3 | 4 | 5   Colors related to
to task   task

#3 - Implied energy

No energy   0 | 1 | 2 | 3 | 4 | 5   Excessive energy

#4 - Space

Less than 25% of   0 | 1 | 2 | 3 | 4 | 5   100% of space used
space used

#5 - Integration

Not at all   0 | 1 | 2 | 3 | 4 | 5   Fully integrated
integrated

#6 - Logic

Entire picture is   0 | 1 | 2 | 3 | 4 | 5   Picture is logical
bizarre or illogical

From: L. Gantt & C. Tabone, 1998, *The Formal Elements Art Therapy Scale: The Rating Manual,*
Morgantown, WV: Gargoyle Press. Copyright © 1998 Linda Gantt.

#7 - Realism

Not realistic (cannot
tell what was drawn)   0 | 1 | 2 | 3 | 4 | 5   Quite realistic

#8 - Problem-solving

No evidence of
problem-solving   0 | 1 | 2 | 3 | 4 | 5   Reasonable solution
to picking apple

#9 - Developmental Level

Two-year-old
level   0 | 1 | 2 | 3 | 4 | 5   Adult level

#10 - Details of Objects and Environment

No details or
environment   0 | 1 | 2 | 3 | 4 | 5   Full environment,
abundant details

#11 - Line Quality

Broken, "damaged"
lines   0 | 1 | 2 | 3 | 4 | 5   Fluid, flowing
lines

#12 - Person

No person
depicted   0 | 1 | 2 | 3 | 4 | 5   Realistic person

#13 - Rotation

Pronounced
rotation   0 | 1 | 2 | 3 | 4 | 5   Trees & people,
upright, no rotation

#14 - Perseveration

Severe   0 | 1 | 2 | 3 | 4 | 5   None

Clinical Vignette

I worked with the client referred to in this appendix, from October 2012 for a total of 7-months. The client had been found guilty of a Category A offence under the Criminal Justice Act 1988 (section 160) as outlined in the Sexual Offences Definitive Guideline (Sentencing Council, 2013). The client had downloaded and been found in possession of images depicting penetrative sexual activity involving children. It was the client's first known offence and he had served an 8-month custodial sentence which he found to be an incredibly harrowing experience and was keen not to have to repeat. Upon release he had been placed on probation for two-years and at the time our sessions began, he had just over one more year to go. Sessions were held weekly in a room at a Probation Office in the Kent area. With reference to a selection of art work, this appendix demonstrates the way in which, using art therapy methodology, the client's maladaptive IWMs, through a process of heightened awareness: came to be revised - culminating in a modification of the distorted cognition that had underpinned his offending behaviour.

Background

The client was a 35-year old male who lived in a house with his mother: the client's probation officer informed me that the client's mother was diagnosed with schizophrenia and did not allow people, other than her children, in the house. One of the client's two sisters (both older) lived nearby the client in Kent, whilst the other (the eldest) resided in the North of England. The client's father, though still alive, left the family unit when the client was 17-years of age and lived near the eldest sister. There was extended family living approximately ten miles away, however, neither the client or his mother got on with these relations and did not socialise with them.

As an adolescent, the client was schooled locally in Kent, he still had two friends from this period of his life whom he very rarely met up with. The client spoke of 'casting off' friends when his schooling finished. He described himself as socially isolated. The client, who identified as heterosexual, had never had an intimate relationship and expressed a desire to experience this.[1] The client's last employment had been in July 2010 when he worked for a small company doing simple accounting. The client spoke of finding comfort, security and predictability in working with figures. The client talked about feelings of paranoia and found it difficult to be in crowds, he was also diagnosed with both agoraphobia and Aspergers.[2] The client was not currently on any medication (though he had taken anti-depressants at intervals throughout his life), and rarely drank alcohol.

At the time of working with this client, formally assessing attachment style (e.g., with the use of psychometric measurements) was not a part of my approach. However, the client did present as insecurely attached and the work I did with him implicitly acknowledged this.

---

[1] As discussed in Chapter 2 (pp. 43-44), adult sex offenders, as a group, have reported low rates of affectional bonds, with over 75% of child molesters and rapists describing themselves as having no close friends in childhood (Marshall, 1997). In addition, Chapter 2 refers to research by Marshall and Marshall (2000) describing how isolation and withdrawal, due to a lack of self-esteem and intimacy skills, may contribute to engagement in (deviant) sexual fantasies, to compensate for a deficit in self-esteem (Marshall & Marshall, 2000).

[2] Research indicates that as adults, a significantly higher number of Internet offenders had been in contact with mental health services (Webb, Craissati, & Keen, 2006): often presenting with a more schizoid, avoidant and dependent profile (Webb et al., 2006).

Additionally, it was not within the remit nor permissions of my work at the time, to assess the client for a DWB or Uncontrollability IT. However, once again, the information provided in this background within this appendix, would seem to suggest that, at the very least, the former IT informed his thinking and behaviour.

Although the client had agreed, at his probation officer's suggestion, to come for art therapy, his probation officer, albeit hopeful, was unsure (due to his agoraphobia), of his ability to be able to attend sessions on a regular basis. However, the client had expressed a desire to his probation officer to be able to go out and be amongst people again, doing 'normal' things, as he had done when younger: This desire to make changes was behind his decision to come to therapy. Thus the intervention of art therapy was in line with his current motivational stage.[3] It was stressed to all clients that, unlike the work they did with their probation officer or through other probation programmes, our work was not designed to directly address their offence behaviour. However, it was anticipated that as a by-product of this indirect approach, that offenders would inevitably address this area of their own volition. During the 7-month period that we worked together, the client never missed a session.

Offending history

Image 1. In our first session, the client informed me that he just wished to do 'talking therapy' since he was no good at art. Although it is always stressed to clients that being 'good at art' is not a pre-requisite for art-therapy, for many clients who believe they are not good at art, engaging in the artistic process, a domain of experiencing unfamiliar to them, may be felt as somewhat threatening and overly exposing. This can result in a loss of, what in many cases, particularly when working with offenders/CSOs, (e.g., Marshall & Barbaree, 1990: see Chapter 2, pp. 43-45), is an already fragile sense of self-esteem. Equally, a reluctance to engage in this unfamiliar process can, for the client who is entering a domain wherein their normal defensive methods of control are challenged (e.g., Gerber, 1994), be experienced as threatening.

When getting to know, and building up a working alliance with a client, challenging their defensive processes too early on, can be counter-productive (e.g., Clark, 1998). Only when a supportive and trust-inducing climate (during which the therapist assesses the client's defence mechanisms) has been established, can the therapist begin to clarify, and challenge "contradictory and conflicted behaviour inherent in defences" (Clark, 1998, p. 22). It was not until our fourth session together that we began to work with the arts. Ten minutes towards the end of the fourth session, I playfully[4] invited the client to pick up a pencil[5] and just create a quick, spontaneous scribble on a piece of paper.

---

[3] Writing about the self-regulation model of the relapse process (Ward & Hudson, 1998b, 2000a; Ward, Hudson & Keenan, 1998), Ward et al. (2006) talk about how when offenders encounter programmes at odds with their current motivation stage, that this may "entrench their risk by increasing resistance to change" (Ward et al., 2006, p. 234).

[4] Referring to how young children assimilate to reality, Piaget spoke about the way in which play, which engages the imagination, creates a bridge between inner (e.g., implicit) and outer e.g., (explicit) reality and is thus, the purest form of assimilation to reality (Piaget, 1962). Being able to foster a playful therapeutic environment (e.g., experimenting with role-play and other novel approaches), when working with adults - can also help clients to try out and assimilate different ways of thinking and being in the world (e.g., Schaefer, 2002).

[5] The effects of different media properties on the creative process in art-therapy, and the ways in which they can facilitate activation of different levels of information processing, is well established (e.g., see Hinz, 2009 for comprehensive overview). For example, clay can be used to evoke a sensory/embodied level of information processing, whereas pencils involving precision, planning and complicated thought processes, are known to evoke a more verbal conceptual mode of information processing (Hinz, 2009): When working with clients, it is advisable to gauge the level of information processing that the client is predominantly operating from and to use

Although a little reluctant, the unexpectedness of the request surprised him, he stated that he would only be able to scribble in straight lines. I encouraged him to either close his eyes (which he did not feel comfortable to do) or to look away and just let his hand run around the paper: which he did. The lines in his drawing (Figure 1), which had begun from the edges of the page, became increasingly less straight and circular towards the centre of the page. Upon finishing, the client turned his head back and looked at the page, surprised and somewhat pleased by what he had created. Slightly unnerved by the amount of curved lines, he proceeded to pick out the straight-edged, geometric triangular shapes to, in his word, bring order to the chaos.[6] This session represented a 'break-through' session, resulting in a less rigid approach thereafter by the client, to engaging in the artistic process.

Figure 1. Scribble drawing.

Image 2. This image (Figure 2), was produced in the client's 7th session. He was invited to create a drawing depicting himself and his family members as flowers or trees: Substituting flowers or trees for human figure drawings, can be a more indirect and less threatening way to gain a better understanding of a client's feelings towards their respective family members and to gain a deeper understanding of family dynamics.[7] In this image, the client has depicted himself as the grass (on far right). Somewhat interestingly, he placed himself closest to the tree, which resembled his father. Next to the tree, the red flower represented the sister who lived locally.

The client's mother was initially only represented by the purple headed flower, a violet. However, the client also added the pink-spotted motif (a rhododendron bush) to the right of the violet, which he said perhaps better described his mother: commenting there was another side

media commensurate with this level. With this client, I chose pencils as the media to begin working with since it reflected the more verbal conceptual level of information processing that he felt most comfortable operating from. This media, compared to something like watercolour paint, also afforded him feelings of being more in control.

[6] Children on the autism spectrum have been found to perform better than anticipated on the Children's Embedded Figures Test (CEFT: Witkin et al., 1971), a test which involves spotting a hidden figure, like a triangle, in a larger drawing of, for example, a pram (Frith, 1989). Frith (1989) also outlines how there is a tendency when viewing a drawing or picture for autistic children to see parts of the picture over the whole (Frith, 1989).

[7] Chapter 4 (p. 119), refers to research by Mathews and Matlock (2011) demonstrating that the conceptual structure of the proximity of interpersonal relationships (e.g.., I feel close to/distant from him/her) revealed itself through the act of drawing (Mathews & Matlock, 2011). They suggested that if verbally conceptualizing friendship is related to thinking about spatial distance, then people should draw themselves closer to their friends. Results supported this hypothesis

3

of her, that like this invasive species, had a tendency to take over and smother everything around. Knowing that the client's mother was diagnosed with schizophrenia, made this another interesting action on behalf of the client. On the far left of the picture, furthest away from the grass (i.e., the client), the client chose to depict the sister who lived up north, as a type of catkin that he coloured in a light acid green. He commented as he drew this flower how much he he hated the acid-green and could not live with this in his surroundings. For the purposes of this appendix and with word-count in mind, although there are many other points of interest related to the artwork produced by this client which could be explored, the catkin and the client's comments therein are of particular interest. In this 7th session, the client did not wish to elaborate upon why he had chosen to depict this sister in a colour he hated.

Figure 2. Family dynamic drawing.

Images 3 & 4. By our 15th session, the client was beginning to open up more about his life. He related an incident that had occurred during adolescence, involving the sister who lived up north that he had chosen the acid-green colour for in session 7 (Figure 2). Since session 7, it had transpired that, when younger, this sister represented a mother-like-figure to him, whom he trusted and relied upon. However, during an outing with this sister and some of his friends, the client said she had behaved appallingly, embarrassing him in-front of his friends, and that this had marked the ending of their 'good' relationship: they were never close again after this day. He still found it difficult to talk about the incident which had involved the sister inadvertently coming across the client who was playing with own genitalia.

I invited the client to create an image representing some aspect of the day. The client created an image of the journey home after the incident, in which he is depicted as the small figure in the back of the car looking out of the window (Figure 3). His sister was initially depicted as the figure in the front of the car but then he 'brought her out of the car' and drew her as the large figure in red on the right hand side of the image. During the creation of the image neither of us spoke and I observed his body language and facial expressions. Upon completion of the image, I reflected back to him what I had observed in his body movements and facial expressions, and we began to explore the feelings he experienced during the creation of the image. In later sessions, the client who had been taken aback by the amount of anger and hurt that he still felt about this incident, was able to attach words to the feelings he had been burying, and these were added to the original image: hurt, pain, sadness, anger, loss, confusion, betrayal, offended and shock: This work retrospectively made sense of the image created in session 7 (Figure 2) and the distance the client had placed between himself and the acid-green catkin.

All these years later, he still felt unable to speak with his sister about the incident. To enable him to fully process these feelings at a deeper, more implicit (embodied) level of processing, we began to work with clay and in one session he created a clay figure of his sister (Figure 4).[8] For several sessions afterwards, our sessions focused upon working through the feelings he had in relation to this incident, experimenting with different ways of processing them. For example, in the absence of actually being able to speak with his sister, dialoguing with the clay figure and saying the things he would like her to hear and know about, was a very powerful intervention. In sessions, it was also important for the client, that he be heard as a victim.[9] The client eventually composed a letter to his sister, which, to my knowledge was never posted. However, as a process, the work around this incident had enabled the client to connect with previously overwhelming feelings that had been consigned to the unconscious. By making these feelings visible and tangible, he was able to reflect upon the incident and to cognitively restructure the previously maladaptive internal working models around the relationship with his sister. This included a consideration of the incident from his sister's viewpoint.
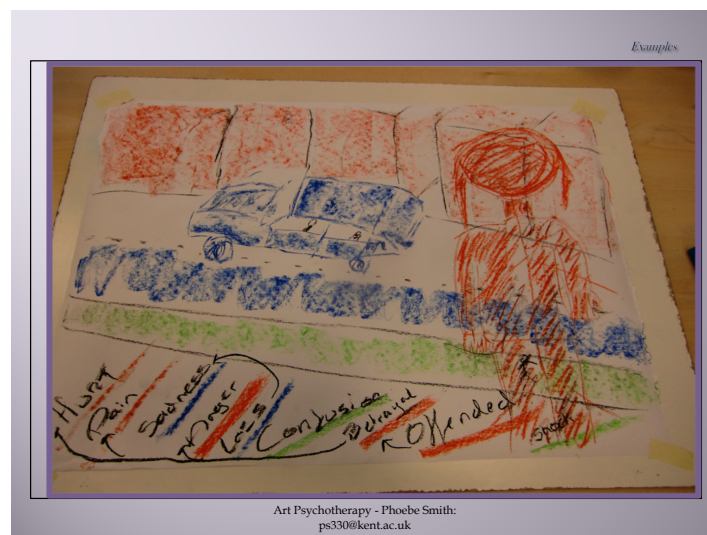

Figure 3. The incident.

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[8] Working with clay can activate processing at the deeper, more unconscious Kinesthetic/Sensory level (e.g., Hinz, 2009): without cognitive overlay, this can help to release pent-up sensations and energy through the use of physical actions. It has long been considered that sensation underpins emotion and cognition (e.g., Damasio, 2000; Hinz, 2009).

[9] Chapter three discusses research which argues, that for an offended-against offender to be able to develop the capacity for appropriate victim empathy, they need, first and foremost, to be heard as a victim in their own right: Only then can they model this attitude towards others (Craissati, McClurg, & Browne, 2002): Even though the client was not (as far as I knew) an historical victim of sexual abuse, this was an important part of the work we did together.
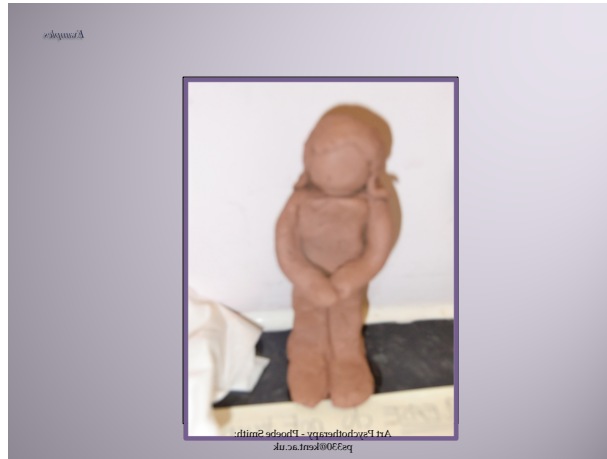
Figure 4. The sister in clay.

Image 5. Building upon the client's ability to perspective-take in order to bring about more adaptive ways of problem solving and being in the world, this piece of work (Figure 5) resulted from a phrase he uttered in one of last sessions, about feeling on that day, that his glass was half empty. We talked about how, depending upon the perspective he took, it could also be half full. I invited him to create a drawing, splitting the page into two halves and showing a glass half empty and one half full (Figure 5). Having done this, he then indicated what was going in his life when the glass was half empty (the left of the drawing: e.g., feeling overwhelmed by crowds, not getting on with his sister, not knowing, strangers, feeling tense). When the glass was half full (the right of the drawing), he experienced more positive feelings including: predictability, enjoying driving his car, having personal space, being with his animals, the prospect of going up north): ultimately, because of what his drawing reflected back to him (i.e., that a glass half empty or full look the same); he realised that it was in his power to adopt an optimistic or pessimistic view over the same issue.

This image perhaps illustrates the ways in which, as a result of previous sessions, the client was now more open and able to begin to develop a more flexible, less rigid and defended approach to his thinking and behaviour: therein to be able to bring this about by changing his perspective-taking.

Figure 5. Glass half empty or half full.

Image 6. By the time of our last session, in early June 2013, the client was more comfortable when discussing his emotions and feelings in a way that he had not felt able to do seven-months before. In this way, he had learned how to better regulate his emotions.[10] This was reflected in Figure 6, created using watercolour paints and a method known as wet on wet, known to enhance and evoke emotional experiences (Hinz, 2009). Because of the way in which fluid media easily flow out "of their containers or off their mediators and quickly fill the page" (Hinz, 2009, p. 106), unlike the use of pencils for example, control is quickly lost - meaning that a client can become flooded (overwhelmed) with affect: Hence, it would not have been appropriate to employ this media with the client in earlier sessions. This last image, depicts the client as the boat, sailing off from a harbour on a new journey in good weather, on a calm sea.

Figure 6. Sailing off.

Summing up. Upon finishing our work together, the client gave me permission to share his work with his probation officer: see also Figure 7, for client consent to use artwork in publications. It was the opinion of the probation officer, that the incident with the client's sister, may have contributed in some ways to his online offending: Whilst viewing imagery of offences being perpetrated against vulnerable female children, the probation office wondered whether the client had been partly acting-out the anger and rage he had been harbouring towards his estranged sister. Upon finishing art therapy sessions, the client had progressed to the point where he had initiated contact with one of his school friends, he was also more comfortable being out amongst people and had made the decision, when his probation was over, to move up north to be closer to his father: where he would come into contact with his estranged sister and hopefully begin a relationship once more. Thus, the client was finding more adaptive ways of being in the world, which it was hoped would reduce his risk of re-offending in the future.

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[10] In Chapter 1 (p. 10), we discussed how learning to regulate our own emotions without being overwhelmed by them, and to be able to draw upon them in an adaptive fashion, is essential for our mental health (e.g., Knox, 2011): Affect regulation being the foundation for an adaptable healthy organism, with affect dysregulation the basis for clinical intervention (Omaha, 2004). In Chapter 4, we also discussed that the inability to express oneself emotionally, though not exclusively, is often associated with individuals in forensic populations (e.g., Knight and Modi, 2014; Liebmann, 2008): with research finding that, particularly male offenders, can struggle with Alexithymia, a condition meaning that they encounter difficulties related to emotional expression or emotional vocabularies (Muller, 2000).

Figure 7. Client consent form to use artwork.

APPENDIX VIII

Study 4 Information Sheet

Information sheet for Potential Participants
A Research Project investigating explicit and implicit processing

Introduction.
I would like to invite you to participate in this study, which is concerned with explicit (conscious) and implicit (unconscious) modes of information processing,

Why am I doing this project?
I am a postgraduate student conducting this project as part of my PhD at the university of Kent at Canterbury. It is hoped that this project will provide useful information on information processing.

What will you have to do if you agree to take part?
If you agree to take part in this two-part study you will have to
Part 1: Listen to an audio file which invites participants to visualize and think about a scene. Create a drawing inspired by the audio file. Answer a brief questionnaire.
Upon completion of the two-part study you are free to ask any questions involved and I will be more than happy to answer and give you more details on the study. When the study is completed you are more than welcome to request a summary of the findings, which I will be more than happy to send to you if you are interested.
Part 2: Complete some questionnaires and create some drawings

How much of your time will participation involve?
The whole study is not expected to take up more than 1 hour (2x30 mins) minutes of your time.

Will your participation in the study remain confidential?
If you agree to take part your name will not be recorded at any stage, or stated anywhere on the questionnaires. The information provided by you will be used solely for research purposes and will not be disclosed to other parties. You can be assured that, should you wish to take part in this study, you will remain anonymous and your information treated with strict confidentiality.

What are the advantages of taking part?
You will have the chance to become an active part of psychological research, which could increase your knowledge of psychological research, especially since you have the chance to be fully informed of the purposes as well as the results of this study upon its completion.

Are there any disadvantages involved?
It is slightly possible that as a result of engaging with the visualization task that you could find yourself bothered by thoughts that may arise for you. But you should be once again informed that you have the right to withdraw participation at any time without any negative consequences either before, during or after the study: in the latter case you are invited to contact the Departmental Office (01227 833961) and inform us that you wish to withdraw participation.

Do you have to take part in this study?
No, your participation is entirely voluntary you are by no means obliged to take part. If you do not wish to do so, you do not have to give a reason and you will not be contacted again. Accordingly, if you do wish to participate, you are free to withdraw at any time, and furthermore, upon completion of the task you will not be contacted again unless you express a wish to be further informed on the purposes and results of the study. You are also free to contact us at a later date if you have changed your mind and you no longer wish for us to use your data. If you contact us at a later date with such a request, the questionnaire that bears your participant number will be destroyed and your data will not be used.

If you have any serious concerns about the ethical conduct of this study, please inform the Chair of the Psychology Research Ethics Panel (via the Psychology Department Office) in writing, providing a detailed account of your concern.

Researcher: Phoebe Smith   Supervisor: Dr. Afroditi Pina
ps330@kent.ac.uk   a.pina@kent.ac.uk
Department of Psychology phone: 01227-824110

Appendix X

Study 4 Debrief Sheet

Debriefing Sheet

According to dual process models of information processing, behavioural and emotional responses depend on the interplay between conscious (explicit) and unconscious (implicit) processing. A criticism of assessment tests within forensic psychology is that they only measure the construct of interest at an explicit (conscious) level. In addition, beliefs expressed at an explicit level are also said by some to represent excuses and/or justifications as opposed to genuine beliefs. In this regard, it is suggested that art serves to make the invisible visible, rescuing non-declarative (implicit) memory from its world-less form, creating visible and concrete forms of experience: Recent research from the domain of forensic psychology demonstrates how simple drawings are able to reveal implicit thinking processes.

Informed by the aforementioned recent research, this current project seeks to develop a novel paradigm capable of tapping into both explicit and implicit modes of processing. In this study it is hypothesized that: (1) if a participant holds an authentic belief that it will reveal itself for measurement on both explicit (questionnaire) and implicit (drawing) measurements: This study investigated how safe or dangerous participants experience their world as being.

If you have any serious concerns about the ethical conduct of this study, please inform the Chair of the Psychology Research Ethics Panel, Chair of Ethics, Faculty of Social Sciences, School of Psychology Research Ethics Committee, Keynes College, University of Kent, Canterbury, KENT, CT2 7NP

Once again you are reminded that you are free to withdraw participation at any stage of this study.

If you have been affected by negative thoughts which have arisen as a result of your participation in this study, below are some helpful numbers of organisations you can consult.

Student Counselling Service.	**Samaritans.**
Room C2.4 in Darwin College	Anytime.
Extension 3206 or Direct Line 01227- 823206	Telephone 01233-610000
Email counselling@ukc.ac.uk	

Supervisor: Dr. Afroditi Pina: a.pina@kent.ac.uk: Phone: 01227-824110
Researcher: Phoebe Smith: ps330@kent.ac.uk

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APPENDIX XII

Transcript for Study 4 Visualization Audio

Hopefully you are now sitting comfortably, I would like to invite you to let your imagination come out to play as I take you through a visualization exercise….if you feel comfortable enough….you may like to close your eyes for this bit – I will let you know when to open them again, but if you don't feel like closing your eyes – that's fine too…you might prefer just to keep your eyes open and to focus them upon a surface that you find restful. ***So before we begin I'd like you to briefly turn your attention towards your breathing – take a big deep breath in and then out – in…….then out……….in……..then out……..take a few moments to find a breathing rhythm that is relaxing for you. PAUSE***

In your imagination take yourself to a place where you that represents comfort for you……***feel your body relaxing as you visualize yourself in this place…..you can breathe easily, freely and deeply in this place…PAUSE …all the stresses you normally feel are dropping away….like layers of heavy coats falling from your body onto the floor…as they fall away…feel the weight being lifted from your neck, your shoulders, your arms, your back……….PAUSE…***

…..in this place you are deep in thought for you are in the process of creating a film entitled ….'Scenes from the Story of my life'…..it is a film about your life…….about the memorable things that have happened to you in your lifetime that now shape the way you think about the world and the people in it……..The film is almost –but - not quite finished yet….you have a few more scenes to write …you will not be asked to share any of the thoughts you have in this visualization with anyone – these thoughts will remain your private thoughts - so try not to censor whatever comes into your mind…..

…you have three scenes left to write…..one from your early childhood……one from your teenage years and …..one from your current phase of life……each scene contains an important memory that has helped to shape the way you now think about the world………but right now you are going to concentrate on just one experience from one of these periods of your life…….choose the phase of your life that seems to come most readily to mind……take a few moments to see if in your mind's eye you see yourself most vividly as a child, teenager or in your current life phase…….then I am going to give you a little while to focus in on just this one memory…………PAUSE…2 MINS

so….see yourself in this scene as if were happening now….look around you, what and or who can you see…..….. bring to mind smells, sounds, perhaps you hear voices, maybe music….if you are outside, I wonder what the weather is like…….what emotions and bodily feelings are associated with these memories ..…are you cold, warm, hot…...take a few moments now to be in this place…see yourself as if in a movie…. PAUSE…..3 min

If you have had your eyes closed, I would now like to invite you to open them, if you have had your eyes open and focused on a restful surface, un-focus them …..you will notice that there are three packs of paper marked A, B and C in-front of you together with some pencils. Please only turn each pack over when instructed. Please turn over Pack A you will see this pack contains some drawings which we'll call stimulus drawings –these drawings are intended to stimulate your imagination for the next part of the task – a drawing - as I ramble on - please take a few moments to select between 2 and 4 that catch your attention. Please make sure that you select at least one male and one female 'character' (when you get to the drawing, using your imagination, you can make any of the animals or objects into a male or female character if you like!):

Once you have chosen the drawings that appeal to you, , I would like to invite you to imagine a story – a story which you get to tell in a drawing a bit like a comic picture page if you like, stimulated by the characters and or objects in Pack A – in the drawing you create I'd like you to show something happening between the characters and or objects you have chosen. *PLEASE don't worry about your drawing skill this is not of interest; remember the study responses are anonymous so no-one is judging your drawings. Please feel free to add any other images which come to your mind as you create your drawing and as I've said there is no need to copy the stimulus drawings, you can make them smaller, taller, older, younger, fatter, thinner and so on…..up to you….*

Once you have chosen between 2 to 4 stimulus drawings to inspire your own drawing, I would ask you to please turn over pack (B) you will see it contains plain paper - please use this paper for your drawing………the pencils nearby are for your use…please don't use a pen if you have one. Please give your drawing a title when you have finished. You will now have up to ten minutes to create your drawing.

Ten minutes passes………

Your ten minutes is now up….

When you have completed your drawing, please turn over pack (C) and complete the questions, then you may leave the study.

Appendix XII

Silver's (2005) Emotional and Self-image (sub-divided on mid-scale) Scales

Table 5.1
Scales for Assessing Emotional Content and Self-Images

Emotional Content:

___1 point: *Strongly negative themes*, for example, solitary subjects portrayed as sad, helpless, isolated, suicidal, dead, or in mortal danger Relationships that are destructive, life threatening, lethal, or homicidal.

___2 points: *Moderately negative themes*, for example, solitary subjects portrayed as frightened, angry, frustrated, dissatisfied, worried, destructive, or unfortunate. Relationships that are stressful, hostile, or unpleasant.

___2.5 points: *Ambivalent themes with negative or hopeless outcomes.*

___3 points: *Neutral themes*, for example, ambivalent, both negative and positive. Unemotional, neither negative nor positive. Ambiguous or unclear.

___3.5 points: *Ambivalent theme with positive or hopeful outcomes.*

___4 points: *Moderately positive themes*, for example, solitary subjects portrayed as fortunate but passive. Relationships that are friendly or pleasant.

___5 points: *Strongly positive themes*, for example, solitary subjects portrayed as happy, effective, or achieving goals. Relationships that are caring or loving.

Self-Image:

___1 point: *Morbid fantasy*, respondent seems to identify with a subject portrayed as sad, helpless, isolated, suicidal, dead, or in mortal danger.

___2 points: *Unpleasant fantasy*, respondent seems to identify with a subject portrayed as frightened, frustrated, or unfortunate.

___2.5 points: *Ambivalent fantasy with negative outcome*, respondent seems to identify with subject who is hopeless or likely to fail.

___3 points: *Ambivalent, unemotional or ambiguous fantasy*, unclear or with invisible narrator.

___3.5 points: *Ambivalent fantasy with positive outcome*, respondent seems to identify with subject who is hopeful or likely to succeed.

___4 points: *Pleasant fantasy*, respondent seems to identify with a subject portrayed as fortunate but passive, such as watching television or being rescued.

___5 points: *Wish-fulfilling fantasy*: respondent seems to identify with a subject represented as happy, loved, powerful, admirable, intimidating, destructive, assaultive, or achieving goals.

Appendix XIII

Consent Form for Studies 5 and 6

Volunteer Consent

Please read the following consent statements carefully and sign at the bottom of the page, which indicates that you fully consent to participate in this study.

I have been adequately informed about the nature of this study and received full information about my ethical rights as a participant and I have been given opportunity to ask questions.

I fully understand that the decision to participate is up to me and that I can change my mind and withdraw from the study at any time without it affecting how I am treated in the future. I also understand that I am not obliged to answer any questions in this questionnaire that make me uncomfortable.

I have been guaranteed that all the information collected in this study is strictly confidential and will not bear any personal details that may identify me.

I have read the participant information and agree to take part in this study.

Sign here ....

Thank you for deciding to participate in this study. Your assistance is greatly appreciated.

Supervisor: Afroditi Pina a.pina@kent.ac.uk
Researcher: Phoebe Smith ps330@kent.ac.uk

Appendix XIV

Information Sheet for Studies 5 and 6

Information sheet for Potential Participants
A Research Project investigating explicit and implicit processing

Introduction.
I would like to invite you to participate in this study, which is concerned with explicit (conscious) and implicit (unconscious) modes of information processing,

Why am I doing this project?
I am a postgraduate student conducting this project as part of my PhD at the university of Kent at Canterbury. It is hoped that this project will provide useful information on explicit and implicit modes of information processing.

What will you have to do if you agree to take part?
If you agree to take part in this two-part study you will have to
Part 1: Complete some questionnaires and create a drawing.
Part 2: Listen to an audio file which invites participants to visualize and think about a scene. Create a drawing inspired by the audio file. Answer a brief questionnaire.
Upon completion of the study you are free to ask any questions involved and I will be more than happy to answer and give you more details on the study. When the study is completed you are more than welcome to request a summary of the findings, which I will be more than happy to send to you if you are interested.

How much of your time will participation involve?
The whole study is not expected to take up more than 1 hour (2x30 mins) minutes of your time.

Will your participation in the study remain confidential?
If you agree to take part your name will not be recorded at any stage, or stated anywhere on the questionnaires. The information provided by you will be used solely for research purposes and will not be disclosed to other parties. You can be assured that, should you wish to take part in this study, you will remain anonymous and your information treated with strict confidentiality.

What are the advantages of taking part?
You will have the chance to become an active part of psychological research, which could increase your knowledge of psychological research, especially since you have the chance to be fully informed of the purposes as well as the results of this study upon its completion.

Are there any disadvantages involved?
It is slightly possible that as a result of engaging with the visualization task that you could find yourself bothered by thoughts that may arise for you. But you should be once again informed that you have the right to withdraw participation at any time without any negative consequences either before, during or after the study: in the latter case you are invited to contact the Departmental Office (01227 833961) and inform us that you wish to withdraw participation.

Do you have to take part in this study?
No, your participation is entirely voluntary you are by no means obliged to take part. If you do not wish to do so, you do not have to give a reason and you will not be contacted again. Accordingly, if you do wish to participate, you are free to withdraw at any time, and furthermore, upon completion of the task you will not be contacted again unless you express a wish to be further informed on the purposes and results of the study. You are also free to contact us at a later date if you have changed your mind and you no longer wish for us to use your data. If you contact us at a later date with such a request, the questionnaire that bears your participant number will be destroyed and your data will not be used.

If you have any serious concerns about the ethical conduct of this study, please inform the Chair of the Psychology Research Ethics Panel (via the Psychology Department Office) in writing, providing a detailed account of your concern.

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Department of Psychology phone: 01227-824110

Supervisor: Dr. Afroditi Pina
a.pina@kent.ac.uk

Appendix XV

Debrief Sheet for Studies 5 and 6

Debriefing Sheet

According to dual process models of information processing, behavioural and emotional responses depend on the interplay between conscious (explicit) and unconscious (implicit) processing. A criticism of assessment tests within forensic psychology is that they only measure the construct of interest at an explicit (conscious) level. In addition, beliefs expressed at an explicit level are also said by some to represent excuses and/or justifications as opposed to genuine beliefs. In this regard, it is suggested that art serves to make the invisible visible, rescuing non-declarative (implicit) memory from its world-less form, creating visible and concrete forms of experience: Recent research from the domain of forensic psychology demonstrates how simple drawings are able to reveal implicit thinking processes.

Informed by the aforementioned recent research, this current project seeks to develop a novel paradigm capable of tapping into both explicit and implicit modes of processing. In this study it is hypothesized that: (1) if a participant holds an authentic belief that it will reveal itself for measurement on both explicit (questionnaire) and implicit (drawing) measurements: This study investigated how safe or dangerous participants experience their world as being.

If you have any serious concerns about the ethical conduct of this study, please inform the Chair of the Psychology Research Ethics Panel, Chair of Ethics, Faculty of Social Sciences, School of Psychology Research Ethics Committee, Keynes College, University of Kent, Canterbury, KENT, CT2 7NP

Once again you are reminded that you are free to withdraw participation at any stage of this study.

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Email counselling@ukc.ac.uk	

Supervisor: Dr. Afroditi Pina: a.pina@kent.ac.uk: Phone: 01227-824110
Researcher: Phoebe Smith: ps330@kent.ac.uk

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Appendix XVI

Transcript for Drawing-only Task in Study 6

You will notice that there are three packs of paper marked A, B and C in-front of you together with some pencils. Please only turn each pack over when instructed. Please turn over only Pack A now. You will see this pack contains some drawings which we'll call stimulus drawings – these drawings are mainly to stimulate your imagination for the next part of the study task. Please take a few moments to select some of these drawings that catch your attention.

Now, for this part of the study I would like to invite you to imagine a story – a story which you get to tell in a drawing a bit like a comic picture page or a cartoon – ***PLEASE don't worry about your drawing skill this is not of interest; remember the study responses are anonymous so no-one is judging your drawings***. So the story which you get to tell in drawing involves the characters and or objects you have chosen from Pack A – in this drawing I'd like you to show something happening between the characters and or objects you have chosen. Please make sure that you select at least one male and one female 'character' (using your imagination, you can make any of the animals or objects into a male or female character if you like!). By the way, in your drawing, feel free to make any changes you like to the stimulus drawings – you don't have to copy them as mentioned they are mainly to stimulate your imagination – I'd also like to encourage you to add any ideas and or images that come to mind as you create your drawing

Once you have chosen the stimulus drawings from Pack A that catch your attention please turn over Pack B.

You will see that Pack B contains a sheet of plain paper please use the plain paper for your drawing……the pencils nearby are for your use…please don't use a pen if you have one. Please give your drawing a title when you have finished. You will have up to ten minutes to create this drawing – I will let you know when ten minutes is up –

Your ten minutes is now up.

Please turn over pack (C).

APPENDIX XVII

Marking Guidelines for Silver's (2002) Predictive Drawing Tasks

GUIDELINES FOR SEQUENTIAL ORDER

Administering and Scoring the SDT

Example of Scored Responses

Figure 2.2. Predicting a Sequence

0 points: No sequence representing the soda in the glasses.

1 point: Incomplete sequence.

2 points: Two or more sequences.

3 points: Descending series of lines with corrections (trial and error)

29
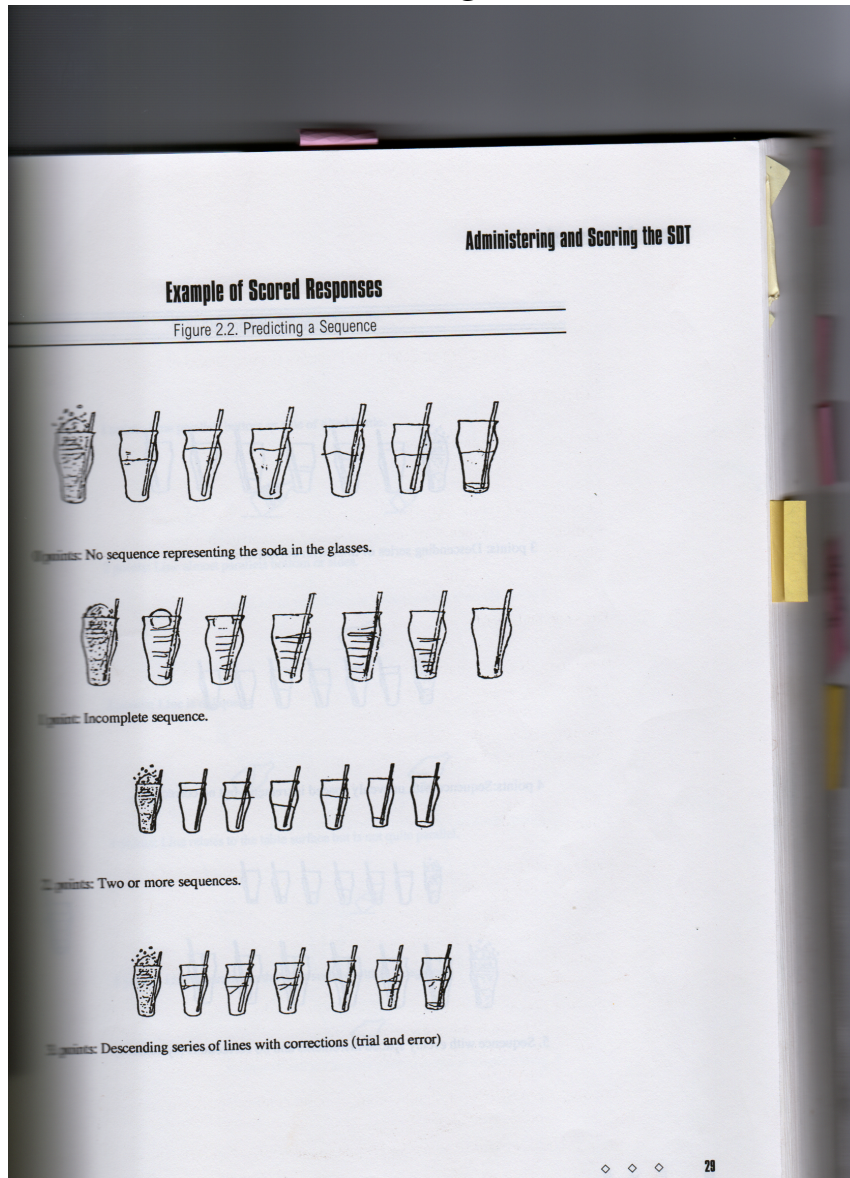
GUIDELINES FOR HORIZONTALITY

Figure 2.3. Predicting Horizontality

1 point: Line parallels bottom or side of tilted bottle.
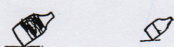
2 points: Line almost parallels bottom or sides.

3 points: Line is oblique.

4 points: Line relates to the table surface but is not quite parallel.

5 points: Line is parallel to the table surface within 5 degrees.

Three Art Assessments

Figure 2.4. Predicting Verticality

1 point: House is approximately perpendicular to the slope.

2 points: House is neither perpendicular nor vertical,

3. points: House is approximately vertical but has no support.

Figure 2.4. continued

4. Points: House is vertical but has inadequate support.

Appendix XVIII

Marking Guidelines for Gantt & Tabone's PPAT/FEATS Task

GUIDELINES FOR LOGIC

SCALE #6 - LOGIC

Do the components of this picture fit the task? Remember that this is supposed to be "a person picking an apple from a tree."

It is important to distinguish between this scale and the next one on realism. An individual element may be recognizable, but it is bizarre or illogical in this particu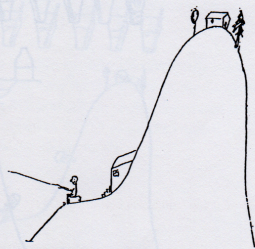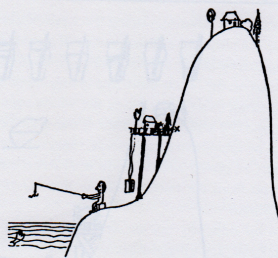lar picture. For example, there may be a Christmas tree in the picture instead of an apple tree. This would rate a 4 on the scale if it were the only bizarre or illogical element in the picture. However, sometimes an element which at first appears to be bizarre is used by the artist in a humorous fashion. If the total effect seems to be intentionally humorous or satirical, do not rate it as illogical.

CRITERIA	RATING
This variable cannot be rated because individual items cannot be identified.	0
The picture is not logical at all, or it has more than 3 bizarre items that do not fit the task.	1
The picture has 3 bizarre items that do not fit the task.	2
The picture has 2 bizarre items that do not fit the task.	3
The picture has 1 bizarre item, but it is generally logical.	4
There are no bizarre or illogical elements in the picture.	5

Gantt & Tabone, *FEATS Rating Manual*

GUIDELINES FOR REALISM

SCALE #7 - REALISM

Can you recognize all the elements in the picture? The more realistic
and three-dimensional the elements are, the higher the rating would be.

CRITERIA	RATING
The picture is a mass of lines and/or shapes and has no visually identifiable items in it.	0
There are some elements which might have been intended by the artist to represent a person, an apple, or a tree; however, they are no more than suggestive of these elements.	1
The items are recognizable but simply drawn (ex., a lollipop tree with a single line for a trunk).	2
The items are somewhat complex (ex., a tree with a trunk, branches, and leaves).	3
The items are relatively realistically rendered (ex., the tree has a distinct trunk, branches, twigs, leaves, and a suggestion of texture in the trunk).	4
The items are drawn with a great deal of realism (ex., a tree that has shading to indicate a three-dimensional trunk).	5

Gantt & Tabone, *FEATS Rating Manual*

GUIDELINES FOR PROBLEM SOLVING

SCALE #8 - PROBLEM-SOLVING

How effective is the solution for getting the apple out of the tree?

CRITERIA	RATING
The tree, apple, and/or person is missing; or, these items cannot be identified.	0
The person does not have the apple in hand, or there are no apples in a container or on the ground.	1
The person has the apple in hand, but it is not apparent how he/she got it (i.e., it doesn't look as if the person had reached for the apple); or, the apples appear to be falling into a container, or falling on the person or the ground.	2
The person appears to have picked the apple, but the solution is not reasonable (ex., giving the person an excessively long arm, or drawing a small branch with the apple on it coming straight out of the middle of the trunk).	3
The person is on the ground, or some other reasonable type of support (ex., a ladder, or a rock) and is reaching for the apple.	4
The person is on the ground, or some other reasonable type of support (ex., a ladder, or a rock), or is standing on the ground with arm extended, and the apple is actually in hand. (That is, the person is shown in the process of picking the apple as the directions for the picture state).	5

Gantt & Tabone, *FEATS Rating Manual*

GUIDELINES FOR INTEGRATION

SCALE #5 - INTEGRATION

How integrated is the composition? Look at the overall balance and relationship of the elements to each other.

CRITERIA	RATING
This variable cannot be rated because the individual elements cannot be identified or separated from each other.	0
The picture is not at all integrated and seems to have no overall composition; none of the items or elements of the picture seem related to each other.	1
There are at least 2 elements in the picture which may be close to each other, but they are not visually related.	2
There is a visual relationship between 2 elements in the picture.	3
There is a visual relationship between 3 or more elements in the picture.	4
The composition is well integrated and well balanced, and elements may overlap each other (ex., a tree may overlap a horizon line which is drawn the width of the paper).	5
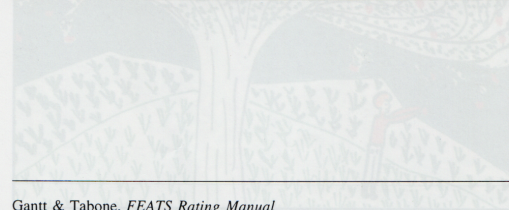
Gantt & Tabone, *FEATS Rating Manual*

Appendix XIX

Consent Forms for Studies 8 and 9

University of Kent

Volunteer Consent

Please read the following consent statements carefully and sign at the bottom of the page, which indicates that you fully consent to participate in this study.

I have been adequately informed about the nature of this study and received full information about my ethical rights as a participant and I have been given opportunity to ask questions.

I fully understand that the decision to participate is up to me and that I can change my mind and withdraw from the study at any time without it affecting how I am treated in the future. I also understand that I am not obliged to answer any questions in this questionnaire that make me uncomfortable.

I have been guaranteed that all the information collected in this study is strictly confidential and will not bear any personal details that may identify me.

I have read the participant information and agree to take part in this study.

Sign here ....

Thank you for deciding to participate in this study. Your assistance is greatly appreciated.

Supervisor: Afroditi Pina a.pina@kent.ac.uk
Researcher: Phoebe Smith ps330@kent.ac.uk

APPENDIX XXII

Debriefing Sheet

According to dual process models of information processing, behavioural and emotional responses depend on the interplay between conscious (explicit) and unconscious (implicit) processing. A criticism of assessment tests within forensic psychology is that they only measure the construct of interest at an explicit (conscious) level. In addition, beliefs expressed at an explicit level are also said by some to represent excuses and/or justifications as opposed to genuine beliefs. In this regard, it is suggested that art serves to make the invisible visible, rescuing non-declarative (implicit) memory from its world-less form, creating visible and concrete forms of experience: Recent research from the domain of forensic psychology demonstrates how simple drawings are able to reveal implicit thinking processes.

Informed by the aforementioned recent research, this current project seeks to develop a novel paradigm capable of tapping into both explicit and implicit modes of processing. In this study it is hypothesized that: (1) if a participant holds an authentic belief that it will reveal itself for measurement on both explicit (questionnaire) and implicit (drawing) measurements: This study investigated how safe or dangerous participants experience their world as being and therein, how in control of themselves and the world they experienced themselves as being.

If you have any serious concerns about the ethical conduct of this study, please inform the Chair of the Psychology Research Ethics Panel, Chair of Ethics, Faculty of Social Sciences, School of Psychology Research Ethics Committee, Keynes College, University of Kent, Canterbury, KENT, CT2 7NP

Once again you are reminded that you are free to withdraw participation at any stage of this study.

If you have been affected by negative thoughts which have arisen as a result of your participation in this study, below are some helpful numbers of organisations you can consult.

Student Counselling Service.   **Samaritans.**
Room C2.4 in Darwin College   Anytime.
Extension 3206 or Direct Line 01227- 823206   Telephone 01233-610000
Email counselling@ukc.ac.uk

Supervisor: Dr. Afroditi Pina: a.pina@kent.ac.uk: Phone: 01227-824110
Researcher: Phoebe Smith: ps330@kent.ac.uk

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Appendix XXI

Information sheet for Studies 8 and 9

Information sheet for Potential Participants
A Research Project investigating explicit and implicit processing

Introduction.
I would like to invite you to participate in this study, which is concerned with explicit (conscious) and implicit (unconscious) modes of information processing,

Why am I doing this project?
I am a postgraduate student conducting this project as part of my PhD at the university of Kent at Canterbury. It is hoped that this project will provide useful information on information processing.

What will you have to do if you agree to take part?
If you agree to take part in this two-part study you will have to
Part 1: Listen to an audio file which invites participants to create a drawing and complete some questions: some participants will be invited to engage in a visualization whilst others will not.
Upon completion of the two-part study you are free to ask any questions involved and I will be more than happy to answer and give you more details on the study. When the study is completed you are more than welcome to request a summary of the findings, which I will be more than happy to send to you if you are interested.
Part 2: Complete some questionnaires and create some drawings

How much of your time will participation involve?
The whole study is not expected to take up more than 1 hour (2x30 mins) minutes of your time.

Will your participation in the study remain confidential?
If you agree to take part your name will not be recorded at any stage, or stated anywhere on the questionnaires. The information provided by you will be used solely for research purposes and will not be disclosed to other parties. You can be assured that, should you wish to take part in this study, you will remain anonymous and your information treated with strict confidentiality.

What are the advantages of taking part?
You will have the chance to become an active part of psychological research, which could increase your knowledge of psychological research, especially since you have the chance to be fully informed of the purposes as well as the results of this study upon its completion.

Are there any disadvantages involved?
It is slightly possible that as a result of engaging with the visualization task that you could find yourself bothered by thoughts that may arise for you. But you should be once again informed that you have the right to withdraw participation at any time without any negative consequences either before, during or after the study: in the latter case you are invited to contact the Departmental Office (01227 833961) and inform us that you wish to withdraw participation.

Do you have to take part in this study?
No, your participation is entirely voluntary you are by no means obliged to take part. If you do not wish to do so, you do not have to give a reason and you will not be contacted again. Accordingly, if you do wish to participate, you are free to withdraw at any time, and furthermore, upon completion of the task you will not be contacted again unless you express a wish to be further informed on the purposes and results of the study. You are also free to contact us at a later date if you have changed your mind and you no longer wish for us to use your data. If you contact us at a later date with such a request, the questionnaire that bears your participant number will be destroyed and your data will not be used.

If you have any serious concerns about the ethical conduct of this study, please inform the Chair of the Psychology Research Ethics Panel (via the Psychology Department Office) in writing, providing a detailed account of your concern.
Researcher: Phoebe Smith   Supervisor: Dr. Afroditi Pina

ps330@kent.ac.uk   a.pina@kent.ac.uk
Department of Psychology phone: 01227-824110

Appendix XXIII

Vallacher and Wegner's (1989) BIF

Any behavior can be identified in many ways. For example, one person might describe a behavior as 'pushing keys, whereas another might describe the same behavior as 'typing a paper', or even as 'expressing thoughts'.

We are interested in your personal preferences for how a number of different behaviors should be described. On the following pages you will find several different behaviors listed. After each behavior will be two choices of different ways in which the behavior might be identified.

Here is an example: **_Attending class_** – your task would be to choose the identification from a choice of two - (a) or (b) - that best describes that behavior for you; so would you choose **(a) sitting in a chair**, or **(b) looking at the blackboard**. *You would indicate your choice by placing a tick in the box next to the choice that best describes the behavior for you. In this example, (b) has been chosen to best describe the indicated behavior.* *There are no right or wrong answers*.

1.	Attending class	
a.	*Sitting on a chair*	
b.	*Looking at the blackboard*	*x*

Please turn over this page now and indicate your choices of how you would describe 25 different behaviors.

1.	Making a list	
a.	*Getting organized*	
b.	*Writing things down*	

2.	Reading	
a.	*Following lines of print*	
b.	*Gaining a knowledge*	

3.	Joining the army	
a.	*Helping the Nation's defense*	
b.	*Signing up*	

4.	Washing clothes	
a.	*Removing odors from clothes*	
b.	*Putting clothes into the machine*	

5.	Picking an apple	
a.	*Getting something to eat*	
b.	*Pulling an apple off a branch*	

6.	Chopping down a tree	
a.	*Wielding an axe*	
b.	*Using a yardstick*	

7.	Measuring a room for carpeting	
a.	*Getting ready to remodel*	
b.	*Using a yardstick*	

8.	Cleaning the house	
a.	*Showing one's cleanliness*	
b.	*Vacuuming the floor*	

9.	Painting a room	
a.	*Applying brush strokes*	
b.	*Making the room look fresh*	

10.	Paying the rent	
a.	*Maintaining a place to live*	
b.	*Writing a check*	

11.	Caring for houseplants	
a.	*Watering plants*	
b.	*Making the room look nice*	

12.	Locking a door	
a.	*Putting a key in the lock*	
b.	*Securing the house*	

13.	Voting	
a.	*Influencing the election*	
b.	*Marking a ballot*	

14.	Climbing a tree	
a.	*Getting a good view*	
b.	*Holding onto branches*	

15.	Filling out a personality test	
a.	*Answering questions*	
b.	*Revealing what you're like*	

16.	Toothbrushing	
a.	*Preventing tooth decay*	
b.	*Moving a brush around in one's mouth*	

17.	Taking a test	
a.	*Answering questions*	
b.	*Showing one's knowledge*	

18.	Greeting someone	
a.	*Saying hello*	
b.	*Showing friendliness*	

19.	Resisting temptation	
a.	*Saying 'no'*	
b.	*Showing moral courage*	

20.	Eating	
a.	*Getting nutrition*	
b.	*Chewing and swallowing*	

21.	Growing a garden	
a.	*Planting seeds*	
b.	*Getting fresh vegetables*	

22.	Travelling by car	
a.	*Following a map*	
b.	*Seeing countryside*	

23.	Having a cavity filled	
a.	*Protecting your teeth*	
b.	*Going to the dentist*	

24.	Talking to a child	
a.	*Teaching a child something*	
b.	*Using simple words*	

25.	Pushing a doorbell	
a.	*Moving a finger*	
b.	*Seeing if someone's home*	

Transcript for Study 9

Thank you for agreeing to take part in the second stage of this two-part study.

In front of you are 4 packs of paper labeled 1,2,3, and 4. Please do not turn over any packs until instructed to do so. You will also see a set of coloring pencils.

Please turn over pack 1 now.

You will see that pack 1 is a piece of drawing paper.

Please draw a person picking an apple from a tree. You will have ten minutes to complete this task. I will let you know when your time is up.

I will repeat the instructions once more.

Please draw a person picking an apple from a tree. You will have ten minutes to complete this task. I will let you know when your time is up.

9 Minutes….

You have 1 minute left to complete this task.

Your ten minutes are now at an end.

Please turn over pack 2 and complete the questions in that pack, then turn over and complete the remaining packs labeled 3 and 4 in that order.