

Chapter 8:
Theories of Deviant Sexual Fantasy

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Abstract

Deviant sexual fantasies have long been regarded as an important factor in sexual offending, with research showing that they serve multiple functions (e.g., inducing arousal, planning behavior) and interrelate with numerous other factors (e.g., emotional states, personality). However, within this chapter, an evaluation of the existing theoretical accounts is provided, which indicates that the construct is not well understood or conceptualized. As a result, the authors present a new model; The *Dual-Process Model of Sexual Thinking* (DPM-ST). This account is developed by drawing upon relevant research from socio-cognitive psychology and mental imagery and knitting it with existing research on deviant sexual fantasies. The DPM-ST states that associative processes are involved in the generation of intrusive sexual thoughts, whereas controlled processes are responsible for the deliberate, effortful, and goal-oriented act of sexual fantasizing. Research supporting the model is outlined, as are various implications for future research and clinical practice.

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Introduction

Sexual fantasy is defined as almost any form of mental imagery that is sexually arousing to the individual (Leitenberg & Henning, 1995). For many years, 'deviant' sexual fantasies have been deemed an important factor in sexual offending, mainly in terms of influencing and maintaining deviant sexual interests (Abel & Blanchard, 1974). As such, deviant fantasies are generally included within theories of sexual offending (e.g., Marshall & Barbaree, 1990; Ward & Beech, 2006), relapse prevention models (Pithers, Kashima, Cummings, & Beal, 1988), and treatment programs (Stinson & Becker, 2012). However, deviant sexual fantasy is a multifaceted phenomenon that interrelates with a number of other factors such as affect, personality, and behaviour (Bartels & Gannon, 2011). Thus, deviant fantasies have been proposed (and found) to serve other functions for sex offenders. Examples include a means to rehearse future behaviour (Bourke, Ward, & Rose, 2012; Hazelwood & Michaud, 2001); a motivation to offend (Beech, Ward, & Fisher, 2006); a means to regulate emotions (Gee, Ward, & Eccleston, 2003); a strategy for coping (Cortoni & Marshall, 2001); and a means for acquiring non-sexual gratification, such as mastery or control (Carabellese, Maniglio, Greco, & Catanesi, 2011; Marshall & Marshall, 2000). Thus, given the various ways sexual fantasy can influence sexual offenders and sexual offending, it is appropriate to examine the theoretical accounts that attempt to explain deviant sexual fantasies.

Theories of Deviant Sexual Fantasy

A thorough search of the literature indicates that there are no stand-alone theories designed to explain deviant (or general) sexual fantasies¹, or the processes that underlie and govern the act of fantasizing. Instead, deviant sexual fantasy is discussed within theories of deviant sexual preferences. It may not be surprising that this is the case, however, given the oft-

¹ MacCulloch, Gray, and Watt (2000) propose a theory for the aetiology of *sadistic* fantasies, which is discussed later.

discussed link between deviant sexual fantasy and deviant sexual interest and arousal (Bartels & Gannon, 2011). Thus, to gain any insight into what has been theoretically proposed about deviant sexual fantasy, one must consult existing theories of deviant sexual preferences. These include McGuire, Carlisle, and Young's (1965) 'sexual deviation hypothesis' and Laws and Marshall's (1990) 'conditioning theory'. Thus, in the following sections, both of these theories will be discussed in terms of how they explain deviant sexual fantasies. In addition, MacCulloch, Gray, and Watt's (2000) account of how *sadistic* sexual fantasies emerge will also be examined.

McGuire et al.'s (1965) account of deviant sexual fantasy

McGuire et al.'s (1965) theory of deviant sexual interest is inspired by the early work of Binet (1888), who postulated that deviant interests are learned during a single sexual experience. However, McGuire et al.'s account differs in an important way. By examining the cases histories of 45 men deemed to be sexually deviant, McGuire et al. theorised that the learning process occurs *after* the initial sexual experience and in a more gradual manner. This is because, for 75% of their sample, the initial sexual experience was reported to be important only as far as providing a sexual fantasy for later masturbation. The authors argue that, because the fantasy tends to be a memory of their initial sexual experience, it is likely to have a greater stimulus value than other sources of fantasy (e.g., books, photos, stories). Drawing upon conditioning principles, the authors theorized that by repeatedly masturbating to this deviant fantasy (before ejaculation), the fantasy becomes even more sexually exciting. As a result, the individual ends up deliberately choosing the deviant sexual memory as a masturbatory stimulus over other less stimulating (non-deviant) sexual fantasies. McGuire et al. state that it is this process that eventually leads to the development of a deviant sexual preference. Thus, sexual fantasy is seen to be a central feature of McGuire et al.'s theory; that is, an "intervening variable" between the first deviant experience and the resulting deviant

sexual interest (Abel & Blanchard, 1974).

By explaining the role sexual fantasy plays within their theory of sexual deviance, McGuire et al. indirectly provide some theoretical assumptions about sexual fantasy per se. First, McGuire et al. regard sexual fantasies as a stimulus that can be conditioned to elicit sexual arousal in the same way an external stimulus can. They further this point by suggesting that, through conditioning processes, particular cues within the fantasy can become a dominant focus if given emphasis during masturbation. Second, since deviant fantasies tended to depict participants' first sexual experience, McGuire et al. regard sexual fantasy as a "sexual memory" (p. 188). Third, McGuire et al. appear to regard sexual fantasies as something one deliberately chooses to envision during masturbation, as opposed to a more intrusive form of mental imagery. On this point, McGuire et al. note that non-deviant fantasies are "more readily available... and socially acceptable" (p. 186), and, thus, provide two reasons for why deviant fantasies are chosen over non-deviant fantasies. The first is that the deviant fantasy is more sexually exciting. This is because, according to McGuire et al., it is a memory of a *real* experience and so has a stronger "initial stimulus value" as a masturbatory fantasy (p. 186). This stimulus value is increased through masturbatory reinforcement until it gains dominance as the preferred fantasy. McGuire et al.'s second reason is that many sexual deviants (50% of their sample in this case) often believe they cannot engage in a normal sex life for a particular reason (e.g., early aversive sexual experiences, physical or social inadequacy). Thus, they turn to using deviant fantasies.

Evaluation of McGuire et al.'s account of deviant fantasies

Despite being developed over 40 years ago, McGuire et al.'s (1965) theory is still regarded as highly influential in explaining deviant sexual preferences. For example, it is a sophisticated account as it that draws together various concepts and has led to the development of various

treatment strategies (Ward, Polaschek, & Beech, 2006). We will now evaluate the assumptions that the theory makes about deviant sexual fantasy. First, the idea that sexual fantasy is a stimulus that can be conditioned to produce a response (i.e., sexual arousal) has some indirect support, both conceptually and empirically. On a conceptual level, many behaviorists are in agreement that private (covert) events, such as mental imagery (of which sexual fantasy is a type), are forms of behavior (Cautela & Baron, 1977; Roche & Barnes, 1998; Skinner, 1953). This is based on the idea that private events share a functional equivalence with public (overt) events (Day, 1969), meaning that they can undergo the same conditioning processes. The only difference is that private events are inaccessible to other observers.

There is some research that supports this view. Dadds, Bovbjerg, Redd, and Cutmore (1997) examined the literature on mental imagery and classical conditioning and found that that mental imagery can influence the outcome of classical conditioning processes and, in some cases, act as a substitute for an actual unconditioned stimulus. Since sexual fantasy is a form of mental imagery, this provides some support for McGuire et al.'s assertions about the conditioning of deviant fantasies. Some more tenuous support can also be gleaned from case studies involving conditioning-based techniques for treating deviant preferences. For example, Kremisdorf, Holmen, and Laws (1980) found that having a pedophilic client masturbate solely to non-deviant fantasies (i.e., 'directed masturbation') daily for eight weeks led to an increase in penile arousal towards non-deviant stimuli. It could be argued here that the non-deviant fantasy became conditioned to elicit sexual arousal. Indeed, the client reported post-treatment that adult females had become his main source of arousal in fantasy. Moreover, since the client showed increased arousal towards *actual* non-deviant stimuli, it can be argued that the fantasy acted as a substitutive unconditioned stimulus. In sum, the available literature provides some support for the idea that deviant sexual fantasy is a stimulus that can be conditioned to produce a particular response. However, it is clear that

more research is needed on this topic, particularly in the form of well-controlled experimental studies.

McGuire et al.'s second assumption that sexual fantasy is a 'sexual memory' is important as it acknowledges the cognitive nature of sexual fantasies. For example, McGuire et al. state that, since they are memories, sexual fantasies "are subject to the usual psychological processes of recall with the result that distortion and selection of cues take place" (p. 186). While they do not state what these processes are, it can be speculated from the literature on memory distortions that they may involve *incorporating post-event information* into the memory (Loftus, 2005) and '*filling in gaps*' using previous knowledge or schemas (Bartlett, 1932), among others (see Schacter, 2001).

Moreover, the idea that sexual fantasy is a retrieved memory has some conceptual and empirical support. Conceptually, Prentky and Burgess (1991) argue that early childhood abuse can become encoded in memory and retrieved in the form of deviant sexual fantasies. More recently, Ward and Beech (2006) proposed that deviant sexual fantasies are the product of problems occurring in the memory/perception neuropsychological system of the brain. On an empirical level, it has been found that, for some offenders, early abuse and/or past sexual activities were the origin of their deviant fantasies (Gee, Ward, Belofastov, & Beech, 2006). Also, Gee et al. (2003) found that many sex offenders' sexual fantasies served as way to recall and re-live their previous offences.

However, in spite of this support, other research would suggest that McGuire et al. are only partly correct. For example, in their study on 16 sadistic sex offenders, MacCulloch, Snowden, Wood, and Mill (1983) found that 12 offenders first experienced non-aggressive sexual fantasies that changed to sadistic some years after the onset of masturbation (mean of five years). This suggests that their deviant sadistic fantasies originated from imagination. Moreover, in Gee et al.'s (2006) study, some sex offenders directly reported that their fantasies originated purely from imagination, as well as other external sources (e.g.,

pornography). These findings indicate that deviant fantasies are not always sexual memories, demonstrating that McGuire et al. do not provide a full account of deviant sexual fantasies².

McGuire et al.'s suggestion that deviant fantasizing is a deliberate act is an important point, particularly given what is currently understood about deliberate thought processes. That is, they are controlled, cognitively effortful, and often goal-directed (Bargh 1994). Indeed, it has been noted that sexual fantasies are distinguishable from sexual thoughts on the basis of being deliberately internally generated, whereas sexual thoughts are triggered spontaneously by an external event (Byers, Purdon, & Clark 1998; Jones & Barlow, 1990). Some have also made this distinction within the sex offending literature. For example, Stinson and Becker (2012) state that many sex offenders often confuse sexual fantasies with general sexual thoughts. However, most of the work within the sex offending literature does not make the distinction between deliberate sexual fantasies and intrusive, fleeting sexual thoughts.

In summary, McGuire et al. provide some theoretical assumptions about deviant sexual fantasies. Most of these assumptions have received little direct testing. However, some research from other areas (within and outside the sex offending field) offer some support for the idea that sexual fantasies can be conditioned, can be a memory, and can be deliberately envisioned. Thus, while not comprehensive, the theory provides some valuable insights that may prove useful for developing a more cohesive understanding of deviant sexual fantasy. We will now move on to discuss another, more detailed behavioral account of deviant sexual preferences, which like the McGuire et al.'s theory, provides some theoretical assumptions about deviant sexual fantasies.

² Note, it is possible that McGuire et al. only construed sexual fantasy as a 'sexual memory' within the context of deviant preference development. However, this is not stated within their article.

Laws and Marshall's (1990) account of deviant sexual fantasy

In their theory of deviant sexual preferences, Laws and Marshall (1990) propose that sexual deviance is acquired through the same mechanisms that are thought to produce more socially accepted forms of sexual behavior; that is, conditioning and social learning (i.e., modelling). Moreover, they also explain how these two modes of learning can result in the formation of deviant sexual fantasies. These propositions will now be described.

With regards to conditioning, Laws and Marshall essentially elaborate upon McGuire et al.'s (1965) main assumption. That is, that sexual fantasy is an unconditioned stimulus that can be classically conditioned (by pairing it with masturbation) to produce sexual arousal. More specifically, Laws and Marshall argue that any stimulus associated with the original conditioned stimulus (including symbolic stimuli such as fantasies) can elicit sexual arousal; a process known as second-order Pavlovian conditioning. Thus, if an individual becomes conditioned to experience sexual arousal towards a rape scene in a film for example, he may also come to find other related stimuli sexually arousing, such as fantasies about the rape scene and rape in general. Laws and Marshall also argue that operant conditioning reinforces the Pavlovian associations that are formed.

Laws and Marshall extend McGuire et al.'s idea of cue selection by introducing the concept of 'autoerotic influence'. This involves deliberately selecting and pairing specific sexual or nonsexual elements within a fantasy with masturbation so that they become eroticized. Laws and Marshall state that this can lead to the creation of new deviant fantasies or some variation of the original. For example, a man may deliberately focus on or introduce the concept of control into his fantasies. Through conditioning processes, this element can be eroticized and become a predominant focus, perhaps even escalating to sadism.

A unique feature of Laws and Marshall's theory is their introduction of social learning theory (Bandura, 1977), particularly the processes of: 1) *participant modelling*, where an individual experiences and then copies the behaviour of another; 2) *vicarious learning* of a

non-participant behaviour, whether *in vivo*, print, or visual media; and 3) *symbolic modelling*, where the behaviour and its effects are envisioned and elaborated privately within an individual's imagination. Laws and Marshall state that symbolic modelling is evident in masturbation to a deviant sexual fantasy. They state that the content for symbolic modelling can originate from "any deviant contact, random deviant fantasy, or exposure to textual or visual representations of deviant behaviour" (p. 221). Regardless of its origin, Laws Marshall state that symbolic modelling is important in the development of deviant fantasies as it can lead to changes in the original stimulus or to a completely new scenario.

From examination of Laws and Marshall's theory, it appears as though it holds some of the same assumptions about sexual fantasy as do McGuire et al. (1965). For example, that sexual fantasy is a stimulus that can be conditioned and that fantasizing is a deliberate act (as suggested by the process of 'autoerotic influence'). However, the theory differs in terms of how deviant imagery originates. Unlike McGuire et al., Laws and Marshall hold the view that deviant fantasies can reflect more than just one's initial sexual experience.

Evaluation of Laws and Marshall's account of deviant sexual fantasy

Laws and Marshall's conditioning theory clearly provides a more thorough description on how deviant sexual fantasies may develop. Much of the same research that supports McGuire et al.'s main assumptions is also applicable here. For instance, the application of second-order Pavlovian conditioning is supported by research showing that mental imagery can work as a substitute for the actual stimulus (Dadds et al., 1997). However, their claim that operant conditioning reinforces the deviant associations formed through Pavlovian conditioning is harder to corroborate since, as Laws and Marshall note, the two forms of conditioning are difficult to separate. For example, in the aforementioned case study where Kremsdorf et al. (1980) used directed masturbation with a pedophilic client, it is possible that operant conditioning also played a role. That is, the rate of non-deviant sexual fantasy use may have

increased because non-deviant fantasies had become classically conditioned to produce sexual arousal, which itself became a reinforcer.

Laws and Marshall's idea of 'autoerotic influence', which involves deliberately altering small aspects within a fantasy so that it changes or becomes more focused, is very useful. For instance, it can account for the idiosyncratic differences observed in the content of offenders' deviant fantasies. This idea is supported by MacCulluch et al. (1983) who found that nine sadistic sex offenders (out of 16) deliberately changed an element of their sexual fantasy so that it continued to elicit sexual arousal. It should be noted that, although Laws and Marshall give reasons as to why a fantasy might be changed (e.g., to avoid boredom or ensure their fantasy remains sexually arousing), they do not explain why certain themes (e.g., youthfulness, control) or deviant elements (e.g., children) are introduced, changed, or focused upon.

Laws and Marshall also place a lot of emphasis upon the social learning process of symbolic modelling when referring to deviant fantasies. For example, they appear to regard the act of masturbating to deviant fantasy as being evidence itself for symbolic modelling. They also argue that symbolic modelling is essential in the development of deviant fantasies, as it is during this process that the imagery can change, becoming more deviant or evolving into a completely new scenario. This process of change appears similar to the process of 'autoerotic influence' and it is not clear whether they are distinct. There is some support for the assumptions Laws and Marshall make about the source of symbolic modelling. For example, Gee et al. (2006) found that sex offenders' sexual fantasies can originate from their own abusive and non-abusive sexual experiences (c.f. 'any deviant contact'); from pornography or the media (c.f. 'exposure to textual and visual representations'); and from imaginative processes (c.f. 'a random deviant fantasy').

In summary, Laws and Marshall provide more detailed assumptions about deviant sexual fantasies. The assumptions made provide insight into how some of the processes

related to deviant fantasy operate, particularly those that shape fantasy content. They also introduce the idea that sexual fantasies can also originate from imagination, as opposed to just memory. However, some of their points lack a thorough explanation (e.g., why a certain cue is changed or focused upon) and there is some overlap among concepts (e.g., change occurring via autoerotic influence and change occurring during symbolic modelling). Thus, much like McGuire et al. (1965), the theory does not provide a complete understanding of deviant sexual fantasy. Moreover, while there is some indirect support for the assumptions made, on the whole there is a need for much more empirical support. Next we will discuss a theory designed to explain a specific type of sexual fantasy; namely sadistic sexual fantasies.

MacCulloch, Gray, and Watt's (2000) account of sadistic sexual fantasies

There has been much work on sadistic fantasies and sadistic sexual offenders (MacCulloch et al., 1983; Maniglio, 2010). However, MacCulloch et al. (2000) recognized that no explanation existed for how sadistic fantasies are initiated in the first place. Thus, drawing upon the notion of sensory preconditioning (Brogden, 1939), they developed a theoretical account to tackle this question. Sensory preconditioning refers to a learning process where associations between two representations are formed, in the absence of reinforcement, by simply being presented together or in close succession. Using the example provided by MacCulloch et al. (2000), if a click is paired with a light, representations of the two stimuli will form (sensory preconditioning). If the click is then paired with a shock, the click will be able to activate a representation of the shock and produce a fear response (Pavlovian conditioning). Due to the previous sensory preconditioning, the light will now appear to produce a fear response. This is because the light activates a representation of the click, which activates a representation of the shock, which elicits a fear response.

Drawing upon sensory preconditioning (SP) theory and research, MacCulloch et al. (2000) propose that during and immediately after an episode of sexual abuse, a child may

concurrently experience high levels of sexual arousal and aggression. As per the assumptions of SP, it is during this moment that an association will be formed between the internal representation of aggressive feelings and sexual arousal. This association will be strengthened with repeated abuse. As a result, whenever the individual feels aggressive, it will activate feelings of sexual arousal, and vice versa. According to MacCulloch et al., this creates a pathway to generating and envisioning sadistic sexual fantasies. Thus, if such an individual ruminates on wanting to hurt someone, they will also feel sexually aroused due to SP processes. As a result, the violent imagery eventually becomes regarded as a source of sexual arousal (i.e., a sexual fantasy).

Evaluation of MacCulloch et al.'s theory

MacCulloch et al. (2000) provide a novel account on how sadistic fantasies arise. The main strength of the theory is that, unlike the previous two theories, it provides an explanation for why an individual may chose to envision a certain theme (i.e., aggression), especially before they have developed a sexual interest in the theme (i.e., coercion, sexual sadism). However, the theory also appears to suffer from a number of limitations. First, their assumption that sexual arousal is experienced during childhood abuse is based on a single non-human study. The same goes for the assumption that aggression can also be experienced during sexual abuse. Second, despite being a central tenet of their theory, there is little to suggest that sexual sadists experience repeated and chronic childhood sexual abuse. Instead, the literature refers more to physical abuse (Brittain, 1970; Gratzer & Bradford, 1995). Third, the authors provide no definition of sadistic sexual fantasy; an important step when theorizing about a phenomenon. Fourth, the theory does not account for the target of the behavior, such as why one develops sadistic fantasies involving rape (i.e., Beech et al., 2006) when another generates sadistic fantasies involving children (i.e., Firestone, Bradford, Greenberg, Larose, & Curry, 1998). Fourth, the theory has received no direct testing of its assumptions since its

publication. The theory would predict that a sample of sadistic fantasizers would report more incidences of repeated childhood sexual abuse relative to a control group or that sadistic offenders are also likely to feel sexual arousal when primed to experience aggression. Finally, while it was not MacCulloch et al.'s intention, it is not known whether the theory can be applied to explain other types of deviant fantasy content. This may be something worth considering, since there is support that the sexual fantasies of other sex offenders can originate from their own abuse (Gee et al., 2006).

Having examined the main theoretical accounts related to deviant sexual fantasy, it should be emphasized that many of their shortcomings result from their theoretical perspective and the topic on which they focus. For example, the accounts are based primarily on behaviorist principles and so do not directly address the cognitive features that are likely to be associated with sexual fantasy. This is an important point as sexual fantasy has been recognized as a cognitive factor/product (Drieschner & Lange, 1999; Langton & Marshall, 2001). In terms of focus, MacCulloch et al.'s theory is constrained to sadistic fantasies. Moreover, the other two theories are designed to explain deviant sexual preferences. As a result, deviant sexual fantasy is not explicitly defined and does not receive the level of explanation it would have received had they focused exclusively on deviant sexual fantasies. It also means that the assumptions made about deviant fantasy are largely confined to its relationship with sexual arousal.

In summary, the existing accounts of deviant sexual fantasy do not offer a complete explanation of the phenomenon. Thus, in order to gain a fuller understanding of deviant sexual fantasies and how they operate (including the possible cognitive properties and processes underpinning deviant fantasy), research from the last two decades will now be consulted.

Recent Developments

Over the last 20 years, an increasing body of literature on deviant sexual fantasies has amassed, some of which is crucial in aiding our understanding of deviant sexual fantasy. For example, a number of studies have demonstrated a relationship between deviant sexual fantasies and negative emotional/affective states (Looman, 1995; McKibben, Proulx, & Lusignan, 1994; Proulx, McKibben, & Lusignan, 1996), personality traits (Curnoe & Langevin, 2002; Williams, Cooper, Howell, Yuille, & Paulhus, 2009), behavior (MacCulloch et al. 1983; Woodworth, Freimuth, Hutton, Carpenter, Agar, & Logan, 2013) and cognition (Beech et al., 2006; Zurbriggen & Yost, 2004). Thus, rather than being restricted to sexual arousal, this research suggests that deviant sexual fantasy is a much more multifaceted phenomenon (Bartels & Gannon, 2011).

The multifaceted nature of deviant fantasy has been demonstrated by Gee and his colleagues (Gee et al., 2003, 2004, 2006), who devised a descriptive model of ‘sexual fantasy in sexual offending’ (SFSO; Gee & Belofastov, 2007). Based upon qualitative data acquired from a sample of 24 sex offenders, this tripartite model describes the function (Gee et al., 2003), content (Gee et al., 2004), and structural properties (Gee et al., 2006) of sex offenders’ sexual fantasies. According to the SFSO model, sex offenders’ fantasies serve four functions, which are to: (1) induce or increase *sexual arousal*; (2) regulate affective states; (3) cope (by either escaping or manipulating reality); and (4) model future behaviour (either passively or actively). In terms of content, the SFSO model describes two levels. Level 1 includes three categories, which are general sexual fantasies, non-specific offence fantasies, and offence-specific fantasies. Unlike the latter two categories, general sexual fantasies are unrelated to sexual offending behavior. The difference between the latter two types of fantasies is that offence-specific fantasies are related to a specific offence characteristic (e.g., a particular person). The five categories of Level 2 relate to specific characteristics of a fantasy, namely:

demographic (e.g., age, gender); behavioral (i.e., specific sexual activities); relational (i.e., mutual, self, or other); situational (e.g., bedroom); and self-perceptual (e.g., being in control) characteristics.

Finally, the SFSO model describes eight categories associated with the structural properties of sex offenders' sexual fantasies. These include: (1) origin (external or internal); (2) context of the individual when fantasizing; (3) trigger (internal or external); (4) perceptual modality (i.e., visual, tactile, auditory etc); (5) clarity; (6) intensity (i.e., frequency and duration); (7) emotion (appraisal and arousability); and (8) motion (still or moving).

Gee et al.'s SFSO model provides numerous points that may be useful for theoretically understanding deviant fantasy. Some of these points include the recruitment of both imaginative and memory processes in the development of a deviant fantasy; that both automatic and deliberate processes are involved in fantasizing; that context is not only important in triggering fantasies but can also influence fantasy content; that vividness plays a role; and that fantasies can unwittingly create a mental script of an offence. What is notable here is that most of these points reflect features associated with mental imagery.

In addition, a few other cognitive-based ideas have been proposed in the sex offender field. For example, Beech and Ward (2004) propose that deviant fantasies are acute dynamic (changeable) risk factors that arise when an offender's core set of schemas interact with specific triggers. Similarly, Ward and Beech (2006) (and see Chapter 6 of this volume, for an update) state that deviant sexual fantasies develop when problems in the motivation-emotion neuropsychological system of the brain occur in the presence of distorted schemas (i.e., problems in the perception-memory system).

In sum, an insightful body of work has emerged that can be useful in developing a more comprehensive understanding of deviant sexual fantasy. This seems a timely venture as, according to the literature, the understanding of deviant sexual fantasies is lacking in theoretical scope (Gee et al., 2003; Sheldon & Howitt, 2008). Thus, drawing upon existing

research on deviant sexual fantasies, the insights from previous theories, and research on mental imagery and human cognition, we have developed a new theoretical model. This will be outlined in the following section.

The Dual-Process Model of Sexual Thinking

The Dual-Process Model of Sexual Thinking (DPM-ST; Bartels, Beech, & Harkins, 2014) is a preliminary account designed to explain the cognitive processes and mechanisms associated with sexual thoughts and sexual fantasizing. What is important to note here is that fleeting, sexual thoughts are regarded as a distinct, yet interrelated, construct from elaborate sexual fantasies. This is based on research suggesting that externally triggered sexual thoughts are different from internally generated sexual fantasies (Byers et al., 1998; Jones & Barlow, 1990). The DPM-ST model embodies this distinction by adopting a dual-process approach to explaining 'sexual thinking'. Although the authors draw upon new insights from contemporary cognitive psychology, the model was developed to also embody previous theoretical assumptions and existing empirical data, as well as to open new directions for research and treatment. Before the theory is described, it is important to describe what the DPM-ST is designed to do and not do (Ward, 2013). These are as follows:

- The model is not a new or alternative explanation for how sexual preferences arise.
- The DPM-ST is focused on the processes underlying and associated with sexual thoughts and fantasies. Therefore, the various antecedents or predispositions that influence the content of sexual thoughts/fantasies (e.g., biological dispositions, sexual orientation, learned associations, cognitive schemas) are not explained.
- Research by Cortoni and colleagues (Cortoni, Proulx, Paquette, Longpré, & Coutre, 2009; Cortoni, Proulx, & Longpré, 2010) demonstrates that sex offenders' sexual fantasies can develop either before or after sexual offending begins. Moreover, they found that only the former was related to deviant interests. Thus, the DPM-ST does not claim that a deviant interest must be in place for a sexual fantasy to be used.

- Since the model: 1) is not concerned with specific content; and 2) draws upon research on normative human cognition, the DPM-ST is applicable to all sexual thoughts and sexual fantasies, not just deviant themes. However, for the purposes of this chapter, the model is discussed within the context of sex offenders' sexual fantasies.

The DPM-ST was developed by knitting research and theory on deviant fantasy with insights from relevant areas of cognitive psychology. These areas include: dual-process accounts of cognition; mental imagery; working memory; and episodic memory and episodic future thought. In the following sections, the theoretical underpinnings of the DSM-ST are outlined.

Dual-processes of human cognition

Human cognition has long been categorized into two processing modes (Evans, 2008; Schneider & Shiffrin, 1977). One mode is *associative* (also called automatic, implicit, impulsive) and involves the automatic, rapid, and cognitively effortless processing of stimuli. As Smith and DeCoster (1999) state, associative processing is not consciously experienced but the results of it are (i.e., a thought 'popping into mind' or an immediate 'gut feeling'). The other mode is *controlled* (also called rule-based, explicit, and reflective) and is a more deliberate, slower, and effortful form of processing. This dual-processing conceptualization of human cognition has become widely embraced, extensively researched, and used to construct dual-process models for an array of phenomena, including attitudes (Gawronski & Bodenhausen, 2006), sexual arousal (Janssen, Everaerd, Spiering, & Janssen, 2000), desire (Kavanagh, Andrade, & May, 2005), and decision-making (Kahneman, 2011).

With regards to sexual thinking (i.e., sexual thoughts and fantasies), Kavanagh et al.'s (2005) theory of desire is of particular use as it distinguishes between automatic intrusive thoughts and a controlled process they term 'cognitive elaboration'. Kavanagh et al. propose that intrusive thoughts about an appetitive target arise when associations are activated in

response to an internal or external stimulus. Such thoughts are fleeting unless they are awarded further attention (e.g., if they elicit a strong affective reaction). If this occurs, they argue that the controlled process of cognitive elaboration occurs; that is, mentally embellishing or going beyond the stimulus. According to Kavanagh et al., this involves holding information about the target in working memory, typically in the form of mental imagery.

Thus, given that: 1) sexual thoughts and sexual fantasies are argued to be distinct on the basis of being spontaneous (i.e., automatic) and purposeful (i.e., controlled), respectively (Byers et al., 1998); 2) there is evidence for sex-related cognitive associations in both non-offender populations (Snowden, Wichter, & Gray, 2008) and sex offender populations (Babchishin, Nunes, & Hermann, 2012; Bartels, Harkins, & Beech, 2013a); and 3) sexual fantasy is a form of mental imagery about a target object (i.e., an adult or child) and/or behavior (e.g., oral sex), a dual-process model appears applicable for understanding sexual thinking. In other words, sexual thoughts and fantasies can be regarded as distinct (yet interrelated) forms of sexual thinking that operate on the basis of associative and controlled processes, respectively.

Mental imagery and associated processes

One important facet of sexual fantasy that has received little attention within the literature, particularly the sexual offending literature, is that fantasizing involves mental imagery (Leitenberg & Henning, 1995). Mental imagery is defined as a perceptual experience that occurs in the absence of a physical stimulus (Finke, 1989). However, mental imagery is not a single, undifferentiated activity but instead involves an array of cognitive processes working together (Kosslyn, 1995). For example, the generation and retention of mental imagery

requires the resources of *working memory*³ (Baddeley & Andrade, 2000; Moulton & Kosslyn, 2009). Also, the generation of mental imagery requires drawing upon information of past experiences that are stored in episodic memory (Moulton & Kosslyn, 2009). While this seems understandable for the process of remembering a past event, recent behavioral and neuropsychological research demonstrates that imaginative processes also recruits information from episodic memory (Schacter, Addis, & Buckner, 2008). Thus, such information is thought to be recombined to generate novel scenarios of a possible future (Szpunar & McDermott, 2007); a capability termed ‘mental time travel’ (Corballis, 2011). In the current context, then, imagining a novel sexual encounter with someone would require retrieving and recombining information about previous sexual experiences and the person. Indeed, Marshall (2006) describes a case where, during masturbation, an exhibitionist “typically imagined one of his exposing victims approaching him and engaging in consenting intercourse” (p. 17). In the following section, the DPM-ST (Figure 1) will be described, showing how these various concepts and constructs have been knitted together.

Outlining the DPM-ST

Associative processes and sexual thoughts

Whether they be learned, biologically determined, or a combination of these factors, the DPM-ST states that most people associate sex and arousal with an array of possible targets. These may include categories of people (i.e., men/women; adults/children), behaviors (i.e., oral sex, spanking), objects (i.e., fetishes), emotions (i.e., intimacy, excitement), and so on. These associations are likely to guide how, when, and what stimuli are regarded as sexually relevant and are likely to form the basis of sexual schema and implicit theories (Anderson, Cyranowski, & Epsindle, 1999; Beech, Bartels, & Dixon, 2013; Mihailides, Devilly & Ward,

³ Working memory is a limited capacity system where task-relevant information is retained and manipulated during the performance of a cognitive task (Baddeley & Hitch, 1974).

2004). Thus, the DPM-ST proposes that when certain external stimuli (e.g., a child) are encountered, they can automatically activate sex-related associations held in memory (e.g., a 'child-sex' association). This process will be dependent upon the cue (e.g., gender of the child), the context (i.e., a state of physiological arousal, boredom, emotional loneliness), and the pre-existing pattern of associations (Gawronski & Bodenhausen, 2006). Once the association has been activated, it will create an immediate affective response (Gawronski & Bodenhausen, 2006; Janssen et al., 2000), which is instantly translated to a spontaneous sexual thought (e.g., "I am sexually attracted to this child"). Thus, the thought will feel as though it just "popped into mind" (Beevers, 2005) and will only be fleeting unless given more deliberate attention (Kavanagh et al., 2005).

From thought to fantasy

The DPM-ST proposes that the likelihood of a sexual thought being elaborated upon (in the form of a sexual fantasy) will be dependent upon a number of factors. First, in line with Kavanagh et al. (2005), the sexual thought will have to elicit a strong affective response; in this case, sexual arousal or sexual excitement. Indeed, Johnston, Hudson, and Ward (1997) note that sexual thoughts are less likely to be suppressed if strong feelings of sexual arousal are experienced. Second, a sexual thought is more likely to be elaborated upon if it is congruent with explicit attitudes and/or other momentarily considered propositions (Gawronski & Bodenhausen, 2006). For example, a deviant sexual thought (i.e., "This child wants sex with me") resulting from a child's ambiguous gesture will be regarded as congruent or 'true' if it is consistent with distorted explicit (or 'surface-level') attitudes (i.e., "Children enjoy sex with adults"). On the other hand, the same thought will be rejected and negatively appraised if it is *inconsistent* with other endorsed attitudes or considered propositions (i.e., "Sex with children is wrong"; "Children are seriously harmed by sex with adults"). This is more likely to occur if a sex offender has successfully undergone treatment

to correct their distorted attitudes and/or has been helped in developing a more adaptive identity (Ward & Marshall, 2007). This point also exemplifies the agency an offender can potentially have over their use of deviant fantasies, which Ward (2013) argues is an important point to include within theories of psychology and human action.

Third, a sexual offender who has to abide by a relapse prevention plan may be less likely to elaborate upon a fleeting sexual thought, as engaging in a deviant sexual fantasy (referred to as a 'lapse') can cause a negative feeling referred to as the 'abstinence violation effect' (Russell, Sturgeon, Miner, & Nelson, 1989). Fourth, the elaboration of a sexual thought may simply be inappropriate in certain situations (e.g., at work). Finally, elaborating upon a sexual thought in the form of a sexual fantasy is likely to be affected by various individual differences. For example, an individual may be more likely to use a deviant sexual fantasy if they are more sexually preoccupied and/or if they have a greater working memory capacity. They are also more likely to elaborate upon a sexual thought if they are able to effectively form vivid mental imagery (Smith & Over, 1987). Also, being more 'fantasy prone' in general (Wilson & Barber, 1981) is likely to influence the use of sexual fantasies compared those who are less fantasy prone (Curnoe & Langevin, 2002).

Sexual fantasizing (elaboration)

According to the DPM-ST, sexual fantasizing involves elaborating upon an automatic sexual thought, mainly in the form of mental imagery (Kavanagh et al., 2005). Thus, sexual fantasizing (as a form of cognitive 'elaboration') is a deliberate, controlled, and goal-oriented process that requires the resources of working memory. During this process, information is retrieved from episodic memory and is either: 1) used to reconstruct a 'remembered sexual event'; or 2) recombined to create a novel 'imagined sexual event'. This aspect demonstrates that sexual fantasizing can incite "mental time travel", which can lead some offenders to cognitively reflect on a possible future experience of offending (Bourke et al., 2012). Also, as

shown in Figure 1, information from external sources (e.g., pornography) can be incorporated into the imagined fantasies (Gee et al., 2006; Goldstein & Kant, 1973). It should be noted that there is one context in which sexual fantasizing can occur in the absence of thought elaboration. That is, when asked to describe a fantasy on instruction (i.e., in research or clinical practice).

Another proposition of the DPM-ST refers to the cognitive-based consequences of sexual fantasizing. For example, the theory proposes that sexual fantasizing causes the initially activated associations to strengthen further, essentially creating a feedback loop (Ó Ciardha, 2011). Moreover, since mental imagery is regarded as a powerful form of priming that can cause new or less accessible associations to form and be activated (Blair, Ma, & Lenton, 2001), it is possible that other concepts (e.g., 'the self') can become activated. This could lead to the formation of new associations, such as 'child-self' associations (McPhail, Sewell, Nunes, & Hermann, 2010).

Finally, the DPM-ST provides an explanation for why certain imagery is often repeatedly envisioned over other possibilities during the process of elaboration. Put differently, it accounts for why individuals often have a particular scenario they regularly use when fantasizing. Here, conditioning processes are likely to play an important role (Laws & Marshall, 1990). Thus, any imagery that becomes associated with a reinforcing response (e.g., sexual arousal) is likely to be repeated. In addition, the repeated use of the imagery will lead to it becoming encoded in memory as a 'cognitive script' (Huesmann, 1998; Ward & Hudson, 2000). This will increase the likelihood that it will be retrieved during future instances of elaboration (Huesmann, 1998). In other words, due to being more cognitively accessible, an encoded cognitive script is more likely to be brought to mind when an offender elaborates upon a sexual thought, as it requires less cognitive effort than generating a new scenario.

Support for the DPM-ST

Since the DPM-ST is a new and preliminary theory, it has not received a great deal of direct testing. However, there is some support for its assumptions. For instance, the DPM-ST argues that sexual thoughts arise from the activation of sex-related associations. Indeed, a growing body of research using the Implicit Association Task (IAT; Greenwald, McGhee, & Schwartz, 1998) demonstrates that people hold sex-related associations (Ó Ciardha & Gormley, 2012; Snowden et al., 2008), including sex offenders (see Beech et al., 2013). For example, using a single-category IAT, Hempel, Buck, Goethals, and van Marle (2013) found that child abusers hold stronger child-sex associations than adult-sex associations relative to those who sexually offend against adults and non-offenders.

It has yet to be tested whether the activation of sex-related associations predict the content of sexual thoughts and/or fantasies. However, a recent study by Birnbaum, Simpson, Weisberg, Barnea, and Assulin-Simhon (2012) demonstrates that activating certain associations can affect the content of self-reported sexual fantasies. Specifically, they found that the explicit and implicit priming of attachment anxiety (i.e., rejection) lead non-offender participants to write fantasies involving interpersonal distance and hostility.

Historically, there have been no studies aimed at establishing whether sexual fantasies require working memory. However, if it is the case, then envisioning a sexual fantasy while performing another task known to require working memory will be difficult and lead to an impaired performance. Performing bilateral eye-movements (EMs) is a task that taxes working memory (van den Hout et al., 2011), as is the task of envisioning mental imagery (Andrade & Baddeley, 2000). Accordingly, performing EMs while envisioning mental imagery has been found to impair the imagery in the form of reduced vividness and emotionality (Gunter & Bodner, 2008; Hornsveld et al., 2011).

In a study based upon this rationale and paradigm, Bartels, Beech, and Harkins (2013b) found some support for the proposition that working memory underlies sexual

fantasizing. Specifically, using a sample of female and male non-offenders, it was found that envisioning a self-reported sexual fantasy while simultaneously making bilateral EMs resulted in reduced vividness, emotionality, and ‘arousability’ of the fantasy. However, the opposite pattern was found when a sexual fantasy was only envisioned (no EMs). Thus, since sexual fantasies became impaired by a task known to tax working memory, it can be argued that the results support the hypothesis that sexual fantasizing requires working memory. For future research, it would be worthwhile to run a similar study with sex offenders who regularly use deviant sexual fantasies, as the results would have beneficial implications for treatment.

Implications of the DPM-ST

The DPM-ST has numerous implications for both researchers and clinicians. As discussed above, the theory is capable of producing testable hypotheses. Thus, given that a small number of hypotheses have been and are currently being tested with (so far) positive results, it is hoped that other researchers will conduct further experimental studies to validate or reject the various hypotheses. The end result will be a refined theory that will help in providing a deeper understanding of deviant (and non-deviant) sexual fantasizing.

It is also hoped that clinicians will be able to draw something from the DPM-ST. For example, the theory may be able to provide a tripartite framework for how to manage inappropriate sexual fantasizing. First, work done to alter deviant associations and schemas can be interpreted as a preventative strategy for managing deviant thoughts and fantasies. Second, strategies that help control intrusive sexual thoughts (e.g., mindfulness, thought distraction) would be beneficial to prevent the thought being consciously elaborated upon. Also, work on changing explicit attitudes and helping to form more adaptive narrative identities may be useful given the validation process outlined by the DPM-ST. Third, techniques designed to target deliberate sexual fantasies will clearly be beneficial for some

offenders. These include the various conditioning techniques that target fantasy content (e.g., covert sensitization, satiation), as well as more cognitive strategies, such as the use of imagery-competing tasks.

Finally, the differentiation of sexual thoughts from sexual fantasies will have important implications for both researchers and clinicians. This includes ensuring each is measured individually so that a better understanding of the offender can be acquired. That is, an offender who frequently experiences intrusive deviant thoughts but is able to resist elaborating upon them is markedly different from an offender who is making no attempt to control the urge to elaborate the thought via the act of sexual fantasizing.

Conclusions

Deviant sexual fantasy has remained a core feature for understanding and treating sexual offending. As a consequence, deviant fantasies have received a lot of empirical and clinical attention. However, little has been done to address this topic from a theoretical standpoint. By examining the theoretical statements embedded within theories of deviant sexual preferences, it can be seen that a sophisticated understanding of deviant fantasy's relationship with sexual arousal exists. Such accounts help understand how certain imagery is able to eventually elicit high levels of sexual arousal. However, a good theory of sexual fantasy needs to address the underlying processes that govern fantasizing. While some of the accounts provided (perhaps inadvertently) a number of possible insights into these areas, they did not provide an explicit explanation of these factors.

It is clear from the wealth of research within the literature that deviant sexual fantasies are a complex phenomenon. Moreover, existing data shows that sexual fantasizing is a cognitive construct involving mental imagery, evaluative processes, working memory, and memory/information retrieval. Drawing upon research in these various areas, a new theory has been proposed; the DPM-ST. This model aims to explain the processes that underlie

sexual fantasizing and stimulate new thinking in this area. If the theory is successful at driving future research and is corroborated, it could also be knitted together with other Level II theories (e.g., deviant preferences, intimacy deficits, distorted cognition) to produce an integrated understanding of the factors related to sexual offending. Also, the DPM-ST may help explain how specific deviant sexual fantasies develop, especially if it can be tied to the broader social and developmental factors associated with the etiology of deviant fantasies (Cortoni et al., 2009). Finally, on a more general level, it is hoped that this account of sexual thinking can eventually be tied in with what is understood about other relevant processes (e.g., neurological, endocrinological, behavioral) in order to contribute to the understanding of sexual motivation (Toates, 2009). These are exciting research and clinical avenues to investigate further.

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Figure 1. Schematic representation of the Dual-Process Model of Sexual Thinking (DPM-ST)

