Chapter

Word count: 6,780

Contact details: jayson.ware@justice.nsw.gov.au

Behavioural control models in managing sexual deviance

Jayson Ware

Corrective Services New South Wales, Australia

Lauren McIvor

&

Yolanda M Fernandez

Correctional Service Canada

INTRODUCTION

The explicit attempt to control deviant sexual arousal has long been a key component of sex offender treatment. Initial treatment approaches were focused almost exclusively on the notion that sexually abusive behaviour occurred as a result of classic or operant conditioning processes where sexual interest in specific deviant acts was a learned behaviour (McGuire, Carlisle, & Young, 1965). Contemporary sex offender treatment includes behavioural methods targeting deviant sexual arousal but these are now used in a more limited capacity and as part of a broader treatment method. We note also that, whilst these methods are labelled "behavioural", strictly speaking, they often involve cognitive methods, particularly when used in combination with expansive therapeutic strategies within a comprehensive program.

Within this chapter we describe behavioural control procedures used by individuals to modify their deviant arousal. Whilst we refer to their use with sex offenders throughout this chapter, we note that these procedures have been used with individuals presenting for sexual behaviour problems without charges or convictions. We commence by briefly establishing the theoretical foundations for behavioural control models and procedures. There are a number of contextual issues, which we then outline, that we believe are important considerations for treatment providers. Having established our theoretical and contextual underpinnings, we then describe the most used behavioural control procedures whilst critiquing the evidence for their use. Bringing the previous sections together, and with the goal of assisting treatment providers, we provide suggestions for when each procedure could be used and for whom. At this point, we outline practice issues for these procedures in general and seek to provide some clarity or suggestions. We conclude by summarising the various behavioural control models in managing sexual deviance, the evidence for and against their use, and offering suggestions for both treatment providers and researchers.

THEORETICAL FOUNDATIONS

It is important that treatment providers understand the behavioural and sexuality theories underpinning each behavioural control procedure. McGuire et al.'s (1965) "sexual deviation hypothesis" and Laws and Marshall's (1990) "conditioning theory" are two theoretical models that provide rationales for the procedures we outline in the following sections.

McGuire et al. hypothesized that deviant sexual interests were acquired as a result of a single, initial, significant sexual experience that was subsequently used for masturbation. They argued that memory of the initial experience was a preferable sexual fantasy stimulus to

other options (e.g., images). As the individual repeatedly masturbated to the memory, the memory was hypothesized to gain value as a source of reinforcement. Repeated pairing of masturbation and this fantasy were said to result in the development of a deviant sexual interest though classical conditioning processes.

Laws and Marshall (1990) developed the conditioning theory of deviant sexual interests explaining the involvement of both classical and operant conditioning processes. This theory hypothesized that deviant sexual interests are learned via the same means as other non-deviant sexual interests and behaviours. Namely, a combination of conditioning processes and social learning were said to be responsible for the development and maintenance of these interests. They expanded on McGuire et al.'s classical conditioning assumption, stating that any neutral stimulus accompanying sexual arousal could eventually produce sexual arousal itself. They also emphasized that deviant interests could formulate from other sexual experiences, and not just the individual's first experience. Laws and Marshall (1990) asserted that the classically conditioned relationship between the stimulus and sexual arousal could be maintained through operant conditioning (e.g., reinforcement via repeated masturbation).

APPLICATION TO BEHAVIOURAL CONTROL STRATEGIES

Masters and Johnson's (1966) model of the human sexual response is relevant to the application of behavioural control strategies for deviant sexual interests. The human sexual response cycle is comprised of four stages: excitement, plateau, orgasm, and resolution. Kaplan (1979) also added a desire stage, prior to the excitement stage. During the desire stage, motivation to initiate sexual behaviours is established. Arousal increases during the excitement phase and then intensifies for a sustained period during the plateau phase. The orgasm phase is typically characterized by ejaculation in men, and then returns to a non-aroused state in the resolution phase. This response cycle is generally pleasurable and reinforcing for the individual.

Considering the two conditioning theories within the context of the human sexual response cycle, behavioural procedures for countering sexual deviance involve pairing sexually deviant stimuli or fantasies with punishing or unrewarding consequences and/or pairing non-deviant sexual stimuli or fantasies with reinforcement or rewarding consequences. Different conditioning strategies are relevant to different phases of the sexual response cycle. For example, masturbatory techniques are applied during the plateau and orgasm stages while satiation therapies are applicable during the resolution stage.

CONTEXTUAL ISSUES

In considering the use of behavioural procedures the most important initial question is whether they are necessary for the individual. Marshall and Fernandez (2003) demonstrated that not all men convicted of sexual offences display deviant sexual interests at assessment. Careful consideration of the relative merits of using these behavioural procedures with each individual is therefore warranted. The following contextual issues should be considered prior to deciding upon the use of behavioural procedures.

Use with different sex offending populations

Behavioural procedures appear to be a common option for individuals with various offence histories. They appear to be used, with small adjustments, interchangeably with those have committed sexual assaulted adults, sexually abused children, and engaged in non-contact sexual offences. Marshall, Hall, and Woo (2017) noted, however, that these procedures should primarily target individuals who have sexually abused children as individuals whose offences are limited to sexual assaults against adults, including exhibitionism and voyeurism, are less likely to demonstrate deviant sexual arousal patterns at phallometric testing (see Marshall & Fernandez, 2003).

Behavioural procedures have been used with male, female, and adolescent populations. McGrath, Cumming, Burchard, Zeoli, and Ellerby (2010), in their most recent survey of North American and Canadian sex offender programs, found that the majority of community and residential programs treating adult male sex offenders reported using one or more behavioural procedures (68% and 59% respectively) to address deviant sexual interests. Over half of the adolescent programs also reported using at least one of these procedures and, interestingly, a significant proportion of female programs also reported using behavioural control procedures (59% and 37% respectively).

Although aging may decrease risk of reoffending for many sex offenders (Helmus, Thornton, Hanson, & Babchishin, 2012), behavioural procedures may still be relevant, particularly if the offending has occurred recently. Leonard and Donathy (2017) reminded practitioners of the importance of considering the impact of age on sexual functioning. Specifically, they noted the misconception that significantly decreased sexual thoughts and behaviours occur in all older individuals. While age related declines in sexual interest and activity occur in some individuals, others' sexual functioning may remain at high levels. An understanding of the individual's recent sexual functioning including age-related issues such

as their physical health and mobility and any medication side effects, is an important contextual consideration.

The use of behavioural procedures for online or internet sex offenders may be particularly important. de Almeida Neto, Eyland, Ware, Galouzis, and Kevin (2013), for example, argued that online sex offenders have typically paired sexual arousal with internet access/use so often that simply sitting in front of a computer can elicit sexual arousal. Behavioural control procedures can be adapted to relevant stimuli such as sitting in front of the computer, touching the keyboard, clicking through programs, and using the (controlled) internet. Once the behaviours associated with the use of the computer or internet are no longer paired with sex or heightened arousal, computer stimuli may be less likely to trigger sexual thoughts and arousal.

Behavioural procedures have long been used for individuals with intellectual or development disabilities who have sexually offended (Plaud, Plaud, Kolstoe, & Orvedal, 2000). Whilst their initial use involved aversive conditioning procedures that are unlikely to be used today (e.g., electric shocks), process or procedures have remained the same. Lindsay (2011), for example, described the importance of operant and classical conditioning approaches with a sex offending cohort of developmentally delayed individuals, and outlined successful examples using aversion and directed masturbation techniques.

Use when deviant sexual interests are present

Whilst many sex offender treatment programs routinely use behavioural procedures for all participants, we do not advocate this approach. Rather, we argue that these procedures are best used with those individuals who would most benefit from them and where there is some evidence for their use. Marshall, Marshall, Serran, and Fernandez (2006) outline a helpful set of criteria to indicate which offenders might most benefit from these procedures. They noted that a history of persistent deviant behaviours over time, phallometric examinations suggesting significant deviant arousal, or self-reported persistent sexual fantasies, all indicate the suitability of behavioural control procedures. Similarly, with respect to institutional behaviours, Marshall et al. (2006) suggest using behavioural procedures with offenders who persistently display sexualised behaviour towards other inmates or staff or are found to be hoarding pornography or sexualised pictures, both of which could reflect the dynamic risk factor of sexual preoccupation (Hanson & Morton-Bourgon, 2005; Marshall & O'Brien, 2009).

Use within the broader context of treatment

Any effort to modify deviant sexual interest should occur within the broader context of treatment. We agree with Marshall et al. (2009) who argued that behavioural efforts to modify deviant sexual interests should be embedded within the context of all other relevant issues addressed in the sex offender treatment program. This said, as noted by Ware and Mann (2012), initial treatment targets should focus on engaging the individual and addressing factors that may feel more comfortable or less threatening addressing during the early stages of treatment. Appropriate early treatment topics might include self-esteem, relationships, or coping with emotions. It is also important that education about appropriate and healthy sexual behaviours has been delivered, preferably before or concurrently with the section on deviant sexual interests. This ensures that the basis for the use of behavioural procedures is clear and that treatment options for issues such as sexual dysfunction are considered alongside deviant issues. Our strong recommendation is that behavioural control procedures should are introduced later, although not last, in treatment.

BEHAVIOURAL PROCEDURES

This section describes several behavioural control procedures used with with individuals who have committed sexual offences. There are two broad types of behavioural control procedures: 1) the pairing of deviant sexual images with an aversive or punishing stimuli such as a noxious odor (aversive conditioning), or 2) the pairing of appropriate sexual images with a positive or reinforcing stimuli such as masturbation and orgasm (masturbatory or orgasmic reconditioning). Both approaches aim to both assist the client to control, reduce, or eliminate deviant sexual interests as well as to help with the development, strengthening, and maintenance of appropriate sexual arousal and interests. It is hoped that these changes in sexual interests will impact subsequent behavioural choices. Within this section, we will describe five behavioural control procedures common to sex offender treatment, their theoretical foundations, and the evidence, or lack thereof, for their use.

Aversion procedures

Aversive behavioural rehearsal

Aversive behavioural rehearsal, originally called shame aversion (Serber, 1970), involves the individual role-playing deviant sexual behaviours in the presence of others (therapist or treatment group members) or whilst being video recorded. The theoretical underpinning of this technique is the pairing of intense shame, guilt, or anxiety with deviant sexual thoughts

or behaviour. It is hypothesized that the subsequent negative emotions associated with the deviant behaviours will extinguishthe behaviour. The shame felt by the offender is reportedly the punishing stimulus. In practice, the offender is effectively compelled to see what he looks like and sounds like whilst abusing someone (McGrath et al., 2010). Although described as a behavioural control procedure, aversive behavioural rehearsal, or variations of the original procedure, is often incorporated as part of victim empathy sessions as opposed to sexual health sessions (Webster, Bowers, Mann, & Marshall, 2005). There is a lack of empirical evidence as to its effectiveness, with only older case studies available to guide its use (such as Wickramaserka, 1976).

Whilst McGrath et al. (2010) reported that 14% of residential and 22% of community based sex offender treatment programs for adults in the USA and Canada were using this procedure, we advocate against its use. Marshall et al. (2009) have expressed significant concern over such shame-based aversion procedures, labeling them as "ethically dubious". More generally, there is a consensus amongst clinicians that shame-inducing treatment procedures result in poorer overall treatment outcomes (Proeve & Howells, 2002).

Olfactory & Ammonia aversion

Olfactory and ammonia aversion involve the repeated pairing of deviant thoughts or images with the presentation of either a noxious odor or smelling salts (salts of ammonia). Whilst administered in the same manner (inhaled nasally), the two procedures differ in terms of the body's physiological response. Maletzky (1991; 1997) argued that olfactory aversion, which has involved odors produced by valeric acid, mercapto-ethanol, or rancid meat, is effective due to the nausea-inducing aspect of the smell. Laws (2001) offed a simpler explanation suggesting that the noxious stimulus paired with the deviant thoughts or behaviour has an effect due to physiological discomfort. In support of his argument, Laws noted the similarities in outcomes, from case studies, between noxious odors and the effects of ammonia aversion which is mediated by the pain system (rather than the olfactory system). Marshall et al. (2009) reported that there can be a rapid adaptation to smells which means they can lose their punishing properties quickly. They recommend using multiple different foul odors during repeated conditioning trials.

Both olfactory and ammonia aversion appear to have been used mainly with those who engage in exhibitionism but has also been used with those individuals whose deviant thoughts are frequent and triggered by multiple and varied stimuli or where the offender reports high levels of sexual preoccupation (Marshall et al., 2006). Olfactory and ammonia

aversion remain popular, being used by almost 30% of community programs in the USA and Canada (McGrath et al., 2010).

Empirical support of the effectiveness of this approach remains unclear. Few empirical studies exist and all were completed over 10 years ago. The available evidence has, for the most part, come from single-case designs, mainly with individuals who have engaged in exhibitionism (Abel & Rouleau, 1990; Maletzky, 1980; Maletzky & McGovern, 1991) but also with clients who have sexually abused children (Earls & Castonguay, 1989; Marshall, 2006), an individual diagnosed with sadism (Laws, Meyer, & Holmen, 1978), and an individual convicted of possession and distribution of child pornography (e.g., Campbell-Fuller & Craig, 2009). We note that there have also been inconsistencies in the case studies which necessarily limits their generalizability, such as difference in the number of trials, duration of treatment, and the introduction of new odors.

Covert sensitization

Covert sensitization was first described by Cautela (1967) as an aversion-based procedure to reduce unwanted thoughts or behaviors through their repeated imagined association with an unpleasant consequence. Initially adapted for use with within sex offender treatment by Cautela and Wisocki (1971) this procedure subsequently gained popularity, perhaps due to the fact that it can be applied without the need for the therapist to facilitate the unwanted behavior (deviant sexual arousal) or the unpleasant consequences. It appears to be the most commonly used behavioural procedure within sex offender treatment programs with close to half of surveyed US and Canadian treatment programs using a variation of covert sensitization (McGrath et al., 2010).

The basic principle of covert sensitisation is is that individuals are first assisted to construct offense sequences that replicate the chain of circumstances, thoughts, emotions, and behaviours that preceded their prior sexual offence behaviour or, alternatively, they are instructed to detail a deviant sexual fantasies. They are then required to generate a list of several relevant and realistic negative consequences that should evoke strong negative emotions or autonomic responses when imagined. Anecdotally, offenders often need assistance with this aspect of the task as the examples they generate can often reflect what they believe the treatment provider needs to hear rather than genuinely aversive consequences (see Waldram, 2007, for a discussion of this issue). The offender is then tasked with rehearsing the offense sequences or fantasies while concurrently introducing the aversive consequences immediately prior to engaging in the deviant sexual behaviour in the offence

sequence or the sexual fantasy. These offence sequences and imagined aversive consequences can be written on cue-cards (Marshall, 2007), recorded as audio tapes (McGrath, 2001), or completed *in vivo* in the treatment provider's office (Maletzky, 1991).

In theory, covert sensitization discourages subsequent engagement in deviant sexual behaviours by creating an association between those behaviours and the unpleasant consequence. Maletzky (1980) argued, however, that the aversiveness of covert or imagined consequences, even after repeated pairing, is unlikely to be strong enough. Similarly, Marshall and colleagues (2006; 2009; 2011) reported that the aversiveness of the imagined consequences decreases quickly. Maletzky (1980) suggested the addition of an actual stimulus effectively combining covert sensitization with olfactory aversion and calling this procedure "assisted covert sensitization".

Marshall (2007) reported the use of a modified version of covert association for which he argued that the important element of the procedure is likely to be repeated association or pairing of a stimulus and a negative emotion rather than the aversiveness of the consequence. He suggested that the individual should gradually move the aversive consequences earlier and earlier in the sequence or fantasy, so by the time the offender has gained mastery over the procedure, they are interrupting the offence sequence or fantasy at the point when they are contemplating the sequence or fantasy. Gray (1995) reported on the use of a similar approach (minimal arousal conditioning), initially developed by Jensen and Laws (1994) in which the aversive stimulus (imagined or using four odours or ammonia) is introduced when the offender first starts to experience sexual arousal. This practice appears to be increasing in popularity with a significant increase in US and Canadian community based programs adopting its use between 2002 and 2009 (from 18% to 27%).

Despite its popularity, studies examining the use of covert sensitization have declined significantly since the 1990s. There is some evidence for assisted covert sensitization in treating indviduals who have sexually abused children or engaged in exhibitionism (Maletzky, 1980; 1991). However, when Rea et al. (2003) attempted to generalize the results of assisted covert sensitization procedures from a laboratory to a community setting with a client who had sexually abused a child, it was unsuccessful. Weinrott, Riggan, and Frothingham (1997) have conducted the largest study involving a variation of a covert sensitization procedure in which they delivered a large number of audiotaped individualized offending sequences and subsequent videotaped representations of aversive consequences to participants over 25 treatment sessions. This study demonstrated significant decreases in phallometrically assessed and self-reported deviant arousal.

Stava, Levin, & Schwanz (1993) tried to resolve some questions about the mechanism of covert sensitization's supposed effectiveness in reducing arousal to deviant imagery. They tested whether adding aversive imagery was more effective than simply distracting the participant with neutral stimuli for reducing arousal to deviant stimuli. They also tested whether or not habituation to deviant stimuli, simply by repeated exposures, would reduce sexual arousal. They found that introducing aversive stimuli was more effective than distraction and that habituation to deviant stimuli did not reliably occur.

Masturbatory reconditioning

Masturbatory or orgasmic reconditioning uses masturbation to increase sexual responsiveness to appropriate stimuli while simultaneously decreasing sexual responsivity to deviant stimuli. Maletzky (1997) noted that three variations of orgasmic reconditioning have been used: directed masturbation, masturbatory fantasy change, and masturbatory satiation.

Directed masturbation & masturbatory fantasy change

Directed masturbation (Maletzky, 1991) simply involves directing the client to masturbate to 'appropriate' sexual fantasies or masturbate whilst watching appropriate sex images or videos. This overt, positive conditioning procedure involves the pairing of appropriate sexual fantasies or stimuli with masturbation and orgasm, both perceived to be positively reinforcing behaviours. McGrath (2001) notes that appropriate fantasies should include sexual and nonsexual aspects, such as involving consenting adults, nonsexual activity and conversation, foreplay, mutual enjoyment, and after play such as hugging. Marshall and colleagues (2006, 2011) advise against the use of pornography or fantasies that are ultimately unrealistic (e.g., that involve celebrities or unlikely scenarios).

An adaptation to this procedure involves the offender masturbating to deviant fantasies until the point of orgasm inevitability, at which time he is directed to switch to an appropriate fantasy until orgasm (Marquis, 1970). If the client experiences a loss of arousal they are to revert back to the deviant fantasy until re-aroused. They then switch back to fantasizing about an appropriate partner and behavior. The individual is encouraged to introduce the appropriate fantasy earlier and earlier with subsequent masturbation events. Laws and Marshall (1991) suggested switching fantasies when the individual is aroused to above 30% of a full erection. They named this procedure "thematic shift."

Fernandez, Shingler, and Marshall (2006) noted that behavioural procedures involving the use of masturbation, which is a naturally occurring and common phenomenon,

should be expected to assist in the development of prosocial sexual behaviours. Despite this, these procedures are still uncommon in sex offender treatment programs (McGrath et al., 2010) perhaps due to a lack of evidence as to their effectiveness, or to the practice issues involved in their use,.

In their review of the limited available evidence, Laws and Marshall (1991) did not find any of the masturbatory procedures to be significantly better than the others and noted the lack of evidence of their effectiveness. There are case studies reporting on the effectiveness of directed masturbation for individuals who have engaged in voyeurism (Jackson, 1969) and who have sexually abused children (Kremsdorf, Holmen, & Laws, 1980; Thorpe, Schmidt, & Castell, 1963), as well as those who engage in unconventional, but not deviant, fetish-related behaviours (Marshall, 1974). The thematic shift approach has been used somewhat successfully in conjunction with aversion therapies with sadistic (Davison, 1968) and fetishistic behaviour (Lande, 1980). A combination of directed masturbation and ammonia aversion was also used more recently with an individual diagnosed as a pedophile in a case study by Campbell-Fuller and Craig. They found significant self-reported decreases in the participant's frequency and duration of deviant fantasies and masturbation, from baseline to intervention. Increases in frequency and duration of non-deviant fantasies were also observed, but not at levels of statistical significance.

Verbal and Masturbatory satiation

The underlying principle of satiation procedures is that the repeated evocation of a sexual fantasy in the absence of a rewarding consequence will lead to extinction of the behaviour through a loss of valence or boredom. Specifically, this procedure is used when an individual is in a resolution or refractory state of the sexual response cycle. This period occurs almost immediately after orgasm and involves a state where the man is unresponsive to sexual stimuli which would otherwise be arousing (Masters & Johnson, 1966).

Two types of satiation therapy have been used within sex offender treatment. Masturbatory satiation was first described by Marshall and Lippens (1977). The procedure starts with masturbation to an appropriate fantasy. Post-orgasm the individual switches to a deviant sexual fantasy and continues masturbating beyond orgasm, for a significant period of time, whilst rehearsing, preferably verbally, his deviant sexual fantasies. The theory is that continued masturbation during the refractory period is uncomfortable and therefore the deviant fantasy is paired with an aversive stimulus. An important issue for this process is to ensure the individual does not continue masturbating post-orgasm to the deviant fantasy to a

point where arousal returns. Verbal satiation is carried out in the same manner as masturbatory satiation except that the client does not continue masturbating post-orgasm while verbalizing his abusive sexual fantasies (Laws, 1995). In this case the deviant fantasy is paired with a general state of non-arousal, rather than the discomfort of masturbating post-orgasm. As noted by Marshall et al. (2009) satiation therapy involves two methods of action, repetition of deviant fantasies and the association of this repetition with non-reward or discomfort. Despite Marshall et al. (2017) suggesting that masturbatory satiation is problematic for offenders due to the issues with physically masturbating for lengthy periods and the risk of becoming re-aroused while verbalizing the deviant fantasy, we note that, within North American and Canadian programs, it is used more often than verbal satiation (McGrath et al., 2010).

Once again, evidence for this approach is limited, although positive. Masturbatory satiation has been demonstrated to depress deviant sexual interests in anindividual who sexually abused children (Marshall, 1979) and an individual who sexually assaulted an adult (Marshall & Lippens, 1977). These case studies also included directed masturbation procedures. Similarly, Johnston, Hudson, and Marshall (1992) found that a combination of satiation therapy and directed masturbation resulted in marked reductions in arousal to deviant imagery from pre- to post-treatment. Verbal satiation has also been used successfully, in combination with directed masturbation (Alford, Morin, Atkins, & Schoen, 1987; Hunter & Goodwin, 1992; Hunter & Santos, 1990). We consider satiation procedures to have the most substantial evidence base of all behavioural control procedures.

PRACTICE ISSUES

A number of practical issues remain, at least to us, unclear at this point. There is a lack of clarity as to when to use behavioural control approaches and specifically the context within which these procedures are likely to be effective and for whom. There remains a lack of empirical evidence pointing to ideal practice conditions (i.e., how many sequences are required and how often these should be rehearsed). We have articulated what we could be gleaned from the little empirical evidence that exists and from case studies.

Use of procedures combined together

Whilst the behavioural control procedures are usually described as discretely separate methods, Marshall and his colleagues have (Marshall et al., 2006; 2009; 2011) advocated for the combination of directed masturbation to enhance appropriate sexual arousal followed by

satiation during the refractory period. They argued that treatment should focus on the enhancement of appropriate arousal as well as the reduction or extinction of deviancy. As noted above, many of the case studies or empirical studies have examined combinations of procedures.

Frequency of procedures/homework

The frequency and the length of time any procedure should be used remains unclear and appears largely determined by the self-reported responses of each offender, use of phallometric assessments to gauge success in terms of objective arousal responses to appropriate and deviant stimuli, or through the arbitrary time suggested by treatment manuals.

Guidance is, to a large degree, only available through case studies. Typically, each of the procedures outlined above has been used for two to four months, although there is some variation to this. Laws (2001), for example, described the successful use of olfactory aversion with an offender three times a week for eight weeks and, in a separate case, successfully used ammonia aversion four times a week for 14 weeks. Ball and Seghorn (1999) described the use of covert sensitization daily over 20 weeks of treatment whereas McGrath (2001) suggested using this same procedure a minimum of two times per week over five weeks. Marshall et al. (2006; 2011) recommended the use of combining masturbatory reconditioning and satiation on every occasion the individual masturbates over the course of treatment, and rehearsing their covert association procedure on a daily basis.

Difficulties using imagery or fantasy

McGrath (2001) notes that clients may struggle with the use of imagery. He advocates for the use of relaxation techniques at the beginning of each procedure and using other techniques that enhance imagery, such as imagining real people or past personal events within fantasies. Clients may require assistance generating appropriate sexual fantasies due to either their lack of salience or through negative emotions associated with masturbating. Marshall (1975) specifically developed a procedure to assist with reducing feelings of guilt and other such negative emotions associated with masturbating. Treatment providers have also described using other collateral professional supports when offenders refuse to masturbate, for example, on religious grounds (Laws & Marshall, 1991; Marshall et al., 2006; McGrath, 2001).

Advantages of masturbatory procedures

Whilst masturbatory procedures appear to be less commonly favoured, they do have significant advantages. In contrast to other procedures, masturbation is a normative and natural process and, as anecdotally reported by clients, does not feel artificial or contrived as more intrusive options such as olfactory stimuli do. Fernandez et al. (2006) also noted that masturbatory procedures include both reinforcing (i.e., directed masturbation) and depressing methods (i.e., satiation) promoting the understanding that healthy sexuality, versus abstinence, is the ultimate goal.

Using the procedures in an engaging and positive manner

The characteristics of the therapist, therapeutic relationship or alliance, and group climate positively influence sex offender treatment engagement and pre to post-treatment changes (Kozar & Day, 2012). We believe a number of these characteristics are particularly important to modifying sexual interests. It is our experience that therapists who approach sexual deviance discussions in a manner perceived as confrontational, judgemental, or rigid have fewer effective outcomes. In these instances, clients typically respond by withholding information relating to sexual deviance, fabricating answers to appease the therapist, or are even openly hostile. Conversely, therapists who are confident in discussing sexual issues, demonstrate genuineness, empathy, directed discussions, and who explore issues through open ended questions generally experience greater engagement and compliance with the behavioural procedures (see also McGrath, 2001).

SUMMARY

Unfortunately, there remain many unanswered questions regarding the clinical utility of behavioural control procedures with individuals who have engaged in sexual offending. Well controlled studies are needed to inform and implement better evidence-based practices. In particular, more research is required to determine which procedures are effective at increasing healthy sexual interests and decreasing arousal to deviant fantasies or behaviours, which clients are more likely to benefit from behavioural control procedures, and what dosage or frequency of intervention is best. Even more importantly, there is currently no information that indicates whether any demonstrated improvements in arousal last, whether they are generalizable outside the treatment context, or whether such changes are related to reductions in recidivism.

Sexual interests remain an important treatment target in sex offender treatment programs. Deviant sexual interests and sexual self-regulation (i.e., sexual pre-occupation, sex

as coping) are empirically supported dynamic risk factors, which should form the basis of intervention strategies. As such, based on the limited available evidence we suggest that practitioners consider incorporating a combination of masturbatory procedures into treatment for individuals who demonstrate deviant sexual interests during phallometric testing, who self-report deviant sexual interests or whose behaviour suggest difficulty controlling their sexual arousal. Treatment strategies should target both increasing sexual arousal (e.g., directed masturbation) and decreasing deviant sexual arousal (e.g., masturbatory or verbal satiation). Targeting sexual interests should be delayed in the treatment process until therapeutic rapport has been firmly established and should be presented in a supportive, non-judgmental, and sex positive manner. Other professionals should be included as needed in order to address any barriers to healthy sexuality (e.g., religious or spiritual guidance). Dosage considerations should be based on the level and entrenchment of deviant sexual interests and follow up assessments should be incorporated to gauge persistence of any changes and generalization to non-treatment contexts. It is imperative that additional research is done to assess the impact of behavioural control procedures and improve precision in sex offender treatment.

REFERENCES

Abel, G. G., & Rouleau, J. L. (1990). The nature and extent of sexual assault. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Eds.), *Handbook of sexual assault* (pp. 9-21). Boston, MA: Springer.

Alford, G. S., Morin, C., Atkins, M., & Schoen, L. (1987). Masturbatory extinction of deviant sexual arousal: A case study. *Behavior Therapy, 18,* 265-271.

Ball, C. J., & Seghorn, T. K. (1999). Diagnosis and treatment of exhibitionism and other sexual compulsive disorders. In B. K. Schwartz (Ed.), *The sex offender: Theoretical advances, treating special populations and legal developments*, (Vol. 3, 28-1). Kingston, NJ: Civic Research Institute.

Campbell-Fuller, N., & Craig, L. A. (2009). The use of olfactory aversion and directed masturbation in modifying deviant sexual interest: A case study. *Journal of Sexual Aggression, 15,* 179-191.

Cautela, J. R. (1967). Covert sensitization. *Psychological Record, 20,* 459-468.

Cautela, J. R. & Wisocki, L. A. (1971). Covert sensitization for the treatment of the sexual deviations. *The Psychological Record, 21,* 37-48.

Davison, G. C. (1968). Elimination of a sadistic fantasy by a client-controlled counterconditioning technique: A case study. *Journal of Abnormal Psychology*, *73*(1), 84-90.

de Almeida Neto, A. C., Eyland, S., Ware, J., Galouzis, J., & Kevin, M. (2013). Brief Interventions: Solving the 'internet sex offender paradox'. *Psychiatry, Psychology, and Law, 20,* 182-188.

Earls, C. M., & Castonguay, L. G. (1989). The evaluation of olfactory aversion for a bisexual pedophile with a single-case multiple baseline design. *Behavior Therapy*, *20*(1), 137-146.

Fernandez, Y. M., Shingler, J., & Marshall. W. L. (2006). Putting "behavior" back into the cognitive-behavioral treatment of sexual offenders. In W. L. Marshall, Y. M. Fernandez, L. E. Marshall, & G. A. Serran (Eds.), *Sexual offender treatment: Controversial issues* (pp. 211-224). Chichester, UK: Wiley.

Gray, S. R. (1995). A comparison of verbal satiation and minimal arousal conditioning to reduce deviant arousal in the laboratory. *Sexual Abuse: A Journal of Research and Treatment, 7,* 143-153.

Hanson, R. K., & Morton-Bourgon, K. E. (2005). The characteristics of persistent sexual offenders: A meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology, 73,* 1154-1163.

Helmus, L., Thornton, D., Hanson, R. K., & Babchishin, K. M. (2012). Improving the predictive accuracy of Static-99 and Static-2002 with older sex offenders: Revised age weights. *Sexual Abuse: A Journal of Research and Treatment, 24,* 64-101.

Hunter Jr, J. A., & Goodwin, D. W. (1992). The clinical utility of satiation therapy with juvenile sexual offenders: Variations and efficacy. *Annals of Sex Research, 5,* 71-80.

Hunter Jr, J. A., & Santos, D. R. (1990). The use of specialized cognitive-behavioral therapies in the treatment of adolescent sexual offenders. *International Journal of Offender Therapy and Comparative Criminology, 34,* 239-247.

Jackson, B. T. (1969). A case of voyeurism treated by counterconditioning. *Behaviour Research and Therapy, 7*(1), 133-134.

Jensen, S. H., & Laws, R. (1994). Minimal arousal conditioning. Unpublished manuscript.

Johnston, P., Hudson, S. M., & Marshall, W. L. (1992). The effects of masturbatory reconditioning within non-familial child molesters. *Behaviour Research and Therapy, 5,* 559-561.

Kaplan, H. S. (1979). *Disorders of sexual desire.* New York, NY: Brunner Mazel.

Kozar, C. J., & Day, A. (2012). The therapeutic alliance in offending behavior programs: A necessary and sufficient condition for change? *Aggression and Violent Behavior, 17,* 482-487.

Kremsdorf, R. B., Holmen, M. L., & Laws, D. R. (1980). Orgasmic reconditioning without deviant imagery: A case report with a pedophile. *Behaviour Research and Therapy, 18,* 203-207.

Lande, S. D. (1980). A combination of orgasmic reconditioning and covert sensitization in the treatment of a fire fetish. *Journal of Behavior Therapy and Experimental Psychiatry, 11,* 291-296.

Laws, D. R. (1995). Verbal satiation: Notes on procedure, with speculations on its mechanism of effect. *Sexual Abuse: A Journal of Research and Treatment, 7,* 155-166.

Laws, D. R., (2001). Olfactory aversion: Notes on procedure, with speculations on its mechanism of effect. *Sexual Abuse: A Journal of Research and Treatment, 13,* 275-287.

Laws, D. R., & Marshall, W. L. (1990). A conditioning theory of the etiology and maintenance of deviant sexual preferences and behavior. In W. L. Marshall, D. R. Laws & H. E. Barbaree (Eds.), *Handbook of sexual assault: Issues, theories, and treatment of the offender* (pp. 209-229). New York, NY: Plenum Press.

Laws, D. R., & Marshall, W. L. (1991). Masturbatory reconditioning with sexual deviates: An evaluative review. *Advances in Behaviour Research and Therapy, 13,* 13-25.

Laws, D. R., Meyer, J., & Holmen, M. L. (1978). Reduction of sadistic sexual arousal by olfactory aversion: A case study. *Behaviour Research and Therapy, 16,* 281-285.

Leonard, M., & Donathy, L. L. (2017). Understanding normal sexual functioning to assess sexual deviancy. In D. T. Wilcox, M. L. Donathy, R. Gray, & C. Baim (Eds.), *Working with sex offenders: A guide for practitioners* (pp. 49-58). Abingdon, UK: Routledge.

Maletzky, B. M. (1980). Assisted covert sensitization in the treatment of exhibitionism. In D. J. Cox & R. J. Daitzman (Eds.), *Exhibitionism: Description, assessment, and treatment* (pp 187-251). New York, NY: Garland Press.

Maletzky, B. M. (1991). *Treating the sexual offender.* Newbury Park, CA: Sage.

Maletzky, B. M. (1997). Exhibitionism: Assessment and treatment. In D. R. Laws & W. O'Donohue (Eds.), *Sexual deviance: Theory, assessment, and treatment* (pp. 40-74). New York, NY; Guildford.

Maletzky, B. M., & McGovern, K. B. (1991). *Treating the sexual offender.* Thousand Oaks, CA: Sage Publications, Inc.

Marquis, J. (1970). Orgasmic reconditioning: Changing sexual object choice through controlling masturbation fantasies. *Journal of Behavioral Therapy and Experimental Psychiatry, 1*, 263-271.

Marshall, W. L. (1974). A combined treatment approach to the reduction of multiple fetish-related behaviors. *Journal of Consulting and Clinical Psychology, 42*, 613-616.

Marshall, W.L. (1975). Reducing masturbatory guilt. *Journal of Behavior Therapy and Experimental Psychiatry, 6,* 260-261.

Marshall, W. L. (1979). Satiation therapy: A procedure for reducing deviant sexual arousal. *Journal of Applied Behavior Analysis, 12,* 377-389.

Marshall, W. L. (2006). Olfactory aversion and directed masturbation in the modification of deviant preferences: A case study of a child molester. *Clinical Case Studies*, *5*(1), 3-14.

Marshall, W. L. (2007). Covert association: A case demonstration with a child molester. *Clinical Case Studies, 6*, 218-231.

Marshall, W. L., & Fernandez, Y. M. (2003). *Phallometric testing with sexual offenders: Theory, research, and practice*. Brandon, VT: Safer Society Press.

Marshall, W. L., Hall, K. S., & Woo, C. (2017). Sexual functioning in the treatment of sex offenders. In W. L. Marshall and L. E. Marshall (Eds.), *Handbook on the assessment, treatment and theories of sexual offending* (Vol. 3, pp. 1369-1384). West Sussex, UK: Wiley Blackwell.

Marshall, W.L., & Lippens, K. (1977). The clinical value of boredom: A procedure for reducing inappropriate sexual interests. *Journal of Nervous and Mental Diseases, 165,* 283-287.

Marshall, W. L., Marshall, L. E., Serran, G. A., & Fernandez, Y. M. (2006). *Treating sexual offenders: An integrated approach.* New York, NY: Routledge.

Marshall, W. L., Marshall, L. E., Serran, G. A., & O'Brien (2011). *Rehabilitating sexual offenders: A strength-based approach.* Washington, DC: American Psychological Association.

Marshall, L. E., & O'Brien, M. D. (2009). Assessment of sexual addiction. In A. R. Beech, L. Craig, & K. D. Browne (Eds.), *Assessment and treatment of sex offenders: A handbook* (pp. 163-177). Chichester, UK: Wiley.

Marshall, W. L., O'Brien, M. D., & Marshall, L. E. (2009). Modifying sexual preferences. In A. Beech, L. Craig, & K. Browne (Eds.), *Assessment and treatment of sex offenders: A Handbook* (pp. 311-327). Chichester, UK: John Wiley & Sons.

Masters, W., & Johnson, V. (1966). *Human sexual response.* Boston, MA: Little Brown.

McGrath, R. J. (2001). Utilizing behavioral techniques to control sexual arousal. In M. S. Carich & S. E. Mussack (Eds.), *Handbook for sexual abuser assessment and treatment* (pp. 105-116). Brandon, VT: Safer Society Press.

McGrath, R., J. Cumming, G., Burchard, B., Zeoli, S., & Ellerby, L. (2010). *Current practices and emerging trends in sexual abuser management: The Safer Society 2009 North American Survey.* Brandon, VT: Safer Society Press.

McGuire, R., J., Carlisle, J. M., & Young, B. G. (1965). Sexual deviations as a conditioned behaviour: A hypothesis. *Behaviour Research and Therapy, 2,* 185-190.

Plaud, J. J., Plaud, D. M., Kolstoe, P. D., & Orvedal, L. (2000). Behavioral treatment of sexually offending behavior. *Mental Health Aspects of Developmental Disabilities, 3,* 54-61.

Proeve, M., & Howells, K. (2002). Shame and guilt in child sexual offenders. *International Journal of Offender Therapy and Comparative Criminology, 46,* 657-667.

Rea, J. A., Williams, D., Saunders, K. J., Dixon, M., Wright, K., & Spradlin, J. E. (2003). Covert sensitization: A generalization analysis in the laboratory and natural environment through the use of a portable-penile plethysmograph. *The Behavior Analyst Today, 4,* 192-201.

Serber, M. (1970). Shame aversion therapy. *Journal of Behavior Therapy and Experimental Psychiatry, 1,* 213-215.

Stava, L., Levin, S. M., & Schwanz, C. (1993). The role of aversion in covert sensitization treatment of pedophilia: A case report. *Journal of Child Sexual Abuse, 2,* 1-14.

Thorpe, J. G., Schmidt, E., & Castell, D. (1963). A comparison of positive and negative (aversive) conditioning in the treatment of homosexuality. *Behaviour Research and Therapy, 1*(2-4), 357-362.

Waldram, J. B. (2007). Narrative and the construction of "truth" in a prison-based treatment program for sexual offenders. *Ethnography, 8,* 145–169.

Ware, J., & Mann, R. E. (2012). How should "acceptance of responsibility" be addressed in sexual offending treatment programs? *Aggression and Violent Behavior, 17,* 279–288.

Webster, S. D., Bowers, L. E., Mann, R. E., & Marshall, W. L. (2005). Developing empathy in sexual offenders: The value of offence re-enactments. *Sexual Abuse: A Journal of Research and Treatment, 17,* 63-77.

Weinrott, M. R., Riggan, M., & Frothingham, S. (1997). Reducing deviant arousal in juvenile sex offenders using vicarious sensitization. *Journal of Interpersonal Violence, 12,* 704-728.

Wickramaserka, I. (1976). Aversive behavior rehearsal for sexual recidivism. *Behavior Therapy, 7,* 167-176.