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**The Multi-Component Model of Harmful Sexual Behaviour  
for people with Autism and co-morbid Intellectual  
Disabilities - a Theory and Practice Guide.**

Journal:	<i>Journal of Forensic Practice</i>
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Manuscript Type:	Practice Paper
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Journal of Forensic Practice

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3 **Title:** The Multi-Component Model of Harmful Sexual Behaviour for people with Autism and co-  
4 morbid Intellectual Disabilities – A Theory and Practice Guide.  
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8 **Abstract:**  
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11 **Purpose** – The purpose of this paper is to explore to what extent neuro-typical theories of sexual  
12 offending apply to clients with Level 2 and Level 3 autism with a co-morbid intellectual disability.  
13 The paper develops a model of Harmful Sexual Behaviour for this client group and makes  
14 suggestions for how these behaviours can be understood and reduced.  
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19 **Approach** – The Revised Integrated Theory of Sexual Offending (Ward and Beech, 2016) is used as a  
20 starting framework to understand HSB in this client group. This attends to specific  
21 neuropsychological systems, brain development, motivation and emotional processing.  
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25 **Findings:** The Revised ITSO has some utility in understanding Harmful Sexual Behaviour in this client  
26 group. This is improved when neuro-atypical specific state factors are identified. Practical ways of  
27 establishing these state factors are made which attend to the function of the behaviour in-line with  
28 ‘Good Lives’ model of rehabilitation.  
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33 **Practical implications:** Recommendations for ways in which the function of HSB in this client group  
34 can be identified are made as well as recommendations for how treatment can be tailored  
35 dependent on the function of behaviour in this client group.  
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40 **Originality/Value:** Much of the work to date exploring HSB in clients with autism has attended to  
41 clients with Level 1 autism or those without an additional intellectual disability. This paper provides  
42 practitioners with a theory upon which to understand HSB in clients with a dual diagnosis of Level  
43 2/3 autism and an intellectual disability as well as practical recommendations for reducing HSB in  
44 this client group.  
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## Introduction:

Both autistic spectrum disorders (ASD) and intellectual disabilities are neurodevelopmental disorders. An intellectual disability (ID) is identified using DSM-5 (APA, 2013) as:

- a) A significantly reduced ability to understand complex information or learn new skills (impaired intelligence).
- b) A reduced ability to cope independently (impaired social functioning).
- c) The condition started before adulthood (18 years of age) and has a lasting effect (BPS, 2001).

The diagnostic criteria for ASD is listed in the DSM-5 (APA, 2013, p33) as:

- A) *Persistent deficits in social communication and social interaction across multiple contexts...*
- B) *Restricted, repetitive patterns of behaviour, interests, or activities....*
- C) *Symptoms must be present in the early developmental period....*
- D) *Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning....*
- E) *These disturbances are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay...*

Autism is categorised into 3 different levels of severity, recognising the spectrum of impairments and the severity of communication deficits and preoccupations with fixed rituals and/or repetitive behaviours:

Level 3 – Requiring very substantial support

Level 2 - Requiring substantial Support

Level 1- Requiring Support

This paper attends to people with autism at levels 2/3 with an accompanying moderate intellectual disability who have engaged in Harmful Sexual Behaviour (HSB).

## Prevalence

The prevalence of HSB in this population is difficult to establish because as King and Murphy (2014) note very few people with Level 2/Level 3 autism with an additional moderate ID would be convicted

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3 of an offence because they are deemed not to have 'Mens Rea'. Hence, it is unlikely that the Crown  
4 Prosecution Service (CPS) would deem it to be in the public interest to prosecute them. Thus, much  
5 of the literature on offender populations with an ID tends to fall into the 'mild' rather than moderate  
6 category of ID (King and Murphy, 2014).  
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10 Realmuto and Ruble (1999) found inappropriate sexual behaviours were present in 29% of their  
11 sample of people with a autism and a mild to moderate ID (of whom 71% were in the 'moderate ID'  
12 category). Behaviours included public masturbation (21%) followed by indecent exposure (7%).  
13 However, in the sample of people with autism and no ID (sometimes referred to as 'high  
14 functioning'), inappropriate behaviours were only noted in 10% of the sample and also included  
15 inappropriate sexual interests in children. Thus, it is evident that HSB may be present in clients with  
16 autism and may manifest differently when the person has an additional ID. This paper will examine  
17 how this behaviour can be understood theoretically and how such behaviours can be reduced.  
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### 24 Theories of Sexual Offending

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27 Ward and Beech (2016) identified inter-related factors associated with sexual offending, capturing  
28 these in the Revised Integrated Theory of Sexual Offending (ITSO) whereby brain development  
29 (genetics and evolution) influences biological functioning. *Ecological niche factors* (socio-cultural  
30 environment and personal situation) influence social learning. Both of these influence interlocking  
31 *neuropsychological functions* (motivation, emotion, and memory) which lead to changes in clinical  
32 symptoms (referred to as 'state factors') which results in sexual offending. In neuro-typical  
33 populations these have been identified as: general anti-sociality; deviant sexual arousal; problematic  
34 attitudes and beliefs; intimacy deficits; and problems with self-regulation. The model also includes  
35 factors which maintain sexual offending because social learning is influenced throughout a person's  
36 lifetime.  
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45 The ITSO model provides a holistic approach to considering the aetiology and maintenance of sexual  
46 offending integrating the research on risk factors for recidivism and theories of sexual offending.  
47 This paper will examine how the model may apply to sexual offenders with Level 2/3 autism and  
48 moderate ID. Each of the factors included in the model will be explored in terms of their application  
49 to this client group.  
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### 54 Brain Development and Biological Functioning

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3 Ward and Beech (2016) proposed that genetic factors result in a predisposition to seek certain types  
4 of basic human needs. For example, sexual behaviour is evolutionary (Sterelny, 2012) but when this  
5 is combined with neurobiological differences in brain development (such as type and levels of  
6 neurotransmitters; the existence of neural pathways, the integrity of neural structures, high levels of  
7 stress hormones) this affects the action selection and control system.  
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12 Brain Wide Analysis (BWAS) has found that genetic alterations affect the biological pathways  
13 (Richards et al., 2015) causing weaknesses in: visual cortex (the region involved with facial  
14 expression processing); reduced connectivity with the ventromedial prefrontal cortex (linked with  
15 emotion and social communication) and weaknesses relating to reduced cortical functional  
16 connectivity for people with ASD. Atypical connectivity theories of autism (Catani et al., 2016) also  
17 find evidence of abnormal connectivity in the frontal lobes and regional differences in brain  
18 anatomy, which plays a key role in language and social function. In addition, Papagno et al (2010)  
19 also found diffusion abnormalities of the left uncinate fasciculus, which plays a significant role in  
20 face encoding and emotional processing associated with face perception.  
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28 Thus, brain development is clearly impacted upon for people with autism. Ways in which this may  
29 link with HSB are discussed subsequently.  
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### 31 32 Ecological Niche 33

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35 Social, cultural and environmental influences may cause someone to commit a sexual offence in the  
36 absence of any significant psychological deficits or vulnerabilities (Ward and Beech, 2016). In terms  
37 of the development of HSB, these may be difficult to establish for people with Level 2/3 autism due  
38 to limitations in the extent the person is aware of their ability to accurately perceive internal  
39 processes.  
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45 In neuro-typical populations research has shown that children learn to extinguish sexual behaviour  
46 because the social motivation hypothesis (SMH) suggests they are motivated by: social rewards  
47 (such as facial expressions); the desire to shape others' perceptions of ourselves; and a desire to  
48 develop a sense of belonging (Chevallier et al., 2012). However, in ASD, reward centres are less  
49 activated for social stimuli and are less motivated to modify behaviour to make a good impression  
50 (Leary and Kowalski, 1990). Hence, studies have shown that children with ASD are less strategic in  
51 the way they present themselves compared to neuro-typical peers (Scheeren et al., 2010) and less  
52 able to use social cues to learn to inhibit sexual behaviours. Wurtele and Kenny (2011) note that by  
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3 the age of 3, children engage in overt sexual behaviours such as exhibitionism (e.g. showing genitals  
4 to others), voyeuristic behaviours (e.g., looking at people undressing etc.), behaviours related to  
5 personal boundaries (e.g. cuddling with familiar people), and self-stimulating behaviours (e.g.  
6 touching genitals in public). However neuro-typical pre-school children (aged 3-6) are noted to have  
7 already become more inhibited at school compared to at home (Elkovitch et al., 2009). However, for  
8 children with autism this 'modesty' stage is less well developed and may extend into adolescence,  
9 whereby adolescents with ASD may fall behind their neuro-typical peers in their reputation  
10 management abilities, because social expectations and demands may exceed their development of  
11 social skills and a lack of motivation to please the audience (Scheeren et al., 2010).  
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18 The SMH provides some insight into how HSB may develop but the ITSO does not specify explicitly  
19 ecological niche factors as they are individualised to the person in a certain situation. However, this  
20 fits well with Applied Behaviour Analysis which attends to factors in the environment as triggers and  
21 reinforcers for behaviour and it is readily recognised as an important strategy for working with  
22 adults with autism and ID (Morano et al., 2017).  
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28 Interlocking neuropsychological functions (motivation, emotional, perception, memory, action  
29 selection and control)  
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32 The ITSO model proposes that in order to be motivated, information concerning the internal and  
33 external worlds needs to be available and interpreted meaningfully (perception and memory); and  
34 that in order to act, a plan needs to be selected and implemented successfully within a specific  
35 environment (action selection and control). Ward and Beech (2016) suggest that this requires core  
36 neuropsychological systems to be intact. For example, the motivation/emotional system which is  
37 associated with cortical, limbic, and brainstem brain structures which according to Pennington  
38 (2002) influences perception, action selection and the ability to adjust to changing environmental  
39 circumstances. Hence, if a person has difficulty recognising emotions they may struggle when  
40 confronted with the emotions of others and engage in an emotional response to cope with this  
41 (Pennington, 2002). In addition, when discussing the perception and memory system, the ITSO notes  
42 how this specifically relates to sensory information and to how a person constructs representations  
43 of their experiences in the environment (e.g. objects and events).  
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52 One of the strengths of the ITSO is that it regards these factors as interlocking neurological functions  
53 and vulnerability factors rather than 'dynamic risk factors' for sexual offending (Ward and Beech,  
54 2016). This has particular significance for people with autism because the ability of people with  
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3 Level 2/3 autism with a moderate ID to make mental representations of themselves and others is  
4 unlikely to be dynamic. For example, individuals with ASD experience deficits in social-emotional  
5 reciprocity, non-verbal communicative behaviours and the development, maintenance and  
6 understanding of relationships (APA, 2013). They also lack receptiveness or responsivity to facial  
7 expressions or typical social cues such as eye contact and body language (Wing, Gould and Gillberg,  
8 2011) which is specifically evident for individuals with Level 3 autism.  
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14 Furthermore, it has been suggested that sexual offending in ASD may be linked to language  
15 impairments which impair social reciprocity (Haskins and Silva, 2006). These social difficulties, may  
16 be contributing factors to offending (Higgs and Carter, 2015) because they may fail to identify if a  
17 person disapproves of sexual behaviour through non-verbal communication (e.g. frowning, raised  
18 eyebrows, turning their eye gaze or direction of their head etc). Thus, they may continue with the  
19 behaviour rather than extinguishing it.  
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24 In addition, impairments in executive functioning and increased repetitive and perseverative  
25 qualities (Ozonoff and Strayer, 2001) in people with autism may be combined with weak central  
26 coherence (Baron-Cohen and Belmonte, 2005) leading to sensory difficulties which, if manifested in  
27 HSB can be associated with repetitive sexual behaviours such as masturbation regardless of the  
28 environment.  
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34 Deficits in social cognition and non-social domain general processing (inhibitory control and working  
35 memory; or weak central coherence), can result in a tendency to process constituent parts rather  
36 than perceiving the whole (Pellicano et al., 2006). Thus, poor impulse control may compromise  
37 decision making about whether to inhibit HSB. Robic et al. (2015) noted the social environment  
38 impacts on decision making for people with autism and Allman et al. (2005) attribute this to a deficit  
39 in the fast intuitive assessment of complex situations, due to difficulties in using formal social  
40 knowledge in quick-paced, rapidly shifting, social situations (Allman et al. 2005). This is worsened by  
41 deficits in: cognitive empathy (mind-blindness: a deficit in the ability to imagine the thoughts and  
42 feelings of others); and affective empathy (appropriate emotional responses to another person's  
43 thoughts and feelings) (Baron-Cohen, 2009). Higgs and Carter (2015) considered that the inability to  
44 be able to interpret another's intentions may play a key role in sexual offending.  
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53 Clinical Symptoms/ State Factors (emotional problems, social difficulties, cognitive  
54 distortions, deviant arousal)  
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3 Neuro-typical state factors have been identified through factors associated with risk of  
4 recidivism (dynamic risk factors) in the ITSO and fall into 4 domains.  
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- 7 1) *Emotional/behavioural regulation problems* - impulsivity, poor emotional control.
- 8 2) *Need for intimacy and control* - social difficulties, emotional loneliness,  
9 inadequacy, low self-esteem, passive victim stance, and suspiciousness.
- 10 3) *Offence-supportive cognitions or cognitive distortions* - beliefs which support  
11 offending, e.g. believing that: the victim enjoys abuse; that the perpetrator is  
12 entitled to have sex; that women are deceitful.
- 13 4) *Sexual interests* - deviant sexual interest (or paraphilia).  
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19 However, dynamic risk factors pertaining to sexual offending are unknown for offenders with  
20 ASD (Higgs and Carter, 2015) and specifically when considering risk in clients with Level 2/3  
21 autism with co-morbid moderate ID. Neuro-developmental factors (attachment issues, low  
22 self-esteem and lack of assertiveness) have been highlighted as being linked to sexual  
23 offences in offenders with ID (Lindsay, 2009). In addition, Haskins and Silva (2006) state that a  
24 person with ASD may be more likely to engage in HSB due to: restricted or preoccupied  
25 interest of a sexual nature; reduced opportunities for adolescents to learn about sexuality and  
26 relationships within their peer group; and a reliance on other sources (such as the internet)  
27 for information which may provide inappropriate representations of sex and intimacy (Higgs  
28 and Carter, 2015). It is argued that this could lead to: the expectation that a sexual  
29 relationship develops quickly (Attwood, 2006); a lack of understanding around consent;  
30 focussing on their own needs over others; and a possible failure to recognise the distress of  
31 others (Haskins and Silva, 2006).  
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41 However, establishing the state factors for clients with comorbid Level 2/3 autism and an ID  
42 appears to be an outstanding area in the ITSO. For example, whilst there is ample evidence  
43 that clients with autism and ID may experience increased emotional and behavioural  
44 regulation difficulties (Sutton et al., 2013) it is unclear how the factors 'need for intimacy' due  
45 to 'loneliness, inadequacy and low self-esteem' may apply to a person with autism where  
46 there is a high likelihood of them experiencing mind-blindness and alexithymia (Brewer, Cook  
47 and Bird, 2016).  
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53 In addition, given the neuropsychological deficits of this client group it would also be difficult  
54 to establish how an individual may adopt 'offence supportive cognitions' which require high  
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3 levels of empathy. For example, the cognition 'women are deceitful' requires complex layers  
4 of knowledge: firstly that what someone else might think and feel is different to what the  
5 person with autism is thinking and feeling; that the other person would have the capacity to  
6 tell a lie; and that this lying occurs specifically in females towards males. Clearly this would  
7 require extensive cognitive flexibility, empathy and theory of mind which people with Level 3  
8 autism and a moderate ID would be unlikely to possess.  
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13 Thus, the state factors identified in neuro-typical populations may have only limited  
14 applicability to HSB for people with Level 2/3 autism and ID. A potential method of identifying  
15 these for this client group could be undertaken through the use of functional assessment and  
16 Applied Behavioural Analysis (ABA) in order to establish need fulfilment and the role of HSB  
17 when working with this client group. This will be explored subsequently.  
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23 Aunger and Curtis (2008) suggest that from an evolutionary perspective, the primary function  
24 of the brain is to produce adaptive behaviour in order to meet the person's needs called  
25 'behaviour production units' (BPU's). BPU's can be divided into different functions: sensory  
26 systems at the 'front end' for recognizing stimuli; motor systems at the 'back end' for  
27 generating behaviour; and cognition and information processing for decision making (Harnish,  
28 2001). Aunger and Curtis (2008) state behaviour occurs as a result of proposals by BPU's, the  
29 selection of one proposal and its execution by the peripheral nervous system. The time  
30 between BPU and selection of an action depends upon the 'time horizon' the person  
31 possesses as a result of memory or information processing. People with a longer time horizon  
32 can forego immediate reward behaviour for long term reward behaviour. Delays to selecting  
33 an action (even when the behaviour may be rewarding in the short term) are undertaken  
34 using executive control through forming robust mental representations of imagined future  
35 states (Ochsner and Gross, 2005). People with high level executive functions can 'meta-  
36 represent' or use 'interoception' (Sterelny, 2012) which is the ability to objectivise their own  
37 mental states (seeing themselves as having thoughts about their own thoughts) which allows  
38 temporary models of hypothetical situations to be created. People who do not have these  
39 skills have more reactive BPU based on responding to the person's current state and previous  
40 rewards in similar state situations to meet human needs. Thus, people with autism and an ID  
41 may have more difficulties foregoing immediate reward behaviours due to the deficits in  
42 calculating long term rewards and thus are likely to have a shorter 'time horizon'. In addition,  
43 behaviour selection is likely to be re-selected if sufficiently reinforced through the meeting of  
44 a need (Berridge, 2004).  
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3 Research on people with ID and autism has sought to establish the fundamental needs  
4 behaviour is designed to achieve. This is consistent with managing state factors in the neuro-  
5 typical population using the 'Good Lives' model (Ward and Brown, 2004). The benefit of this  
6 approach is that it overcomes difficulties in establishing the origin of HSB (which can be  
7 difficult to ascertain in people who are non-verbal) and moves towards understanding the  
8 function of the behaviour in the here and now.  
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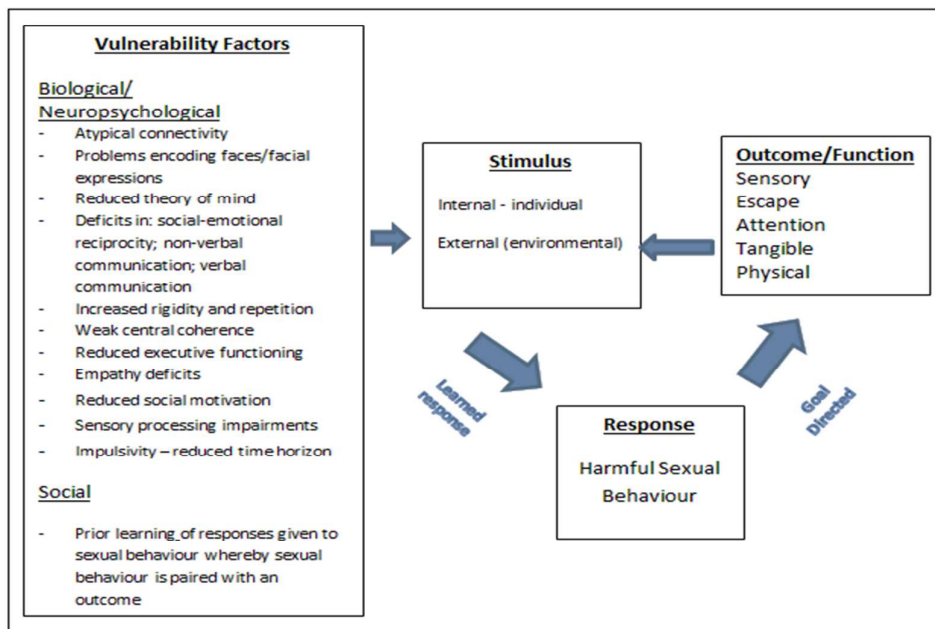
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13 These core fundamental needs (which act as reinforcers for problem behaviours) have been  
14 put into typologies. Matson and Vollmer (1995) identified these as:  
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18 • Attention - to get focused attention from others that are around them. This may not  
19 necessarily be verbal social interaction, but may include physical proximity of another or  
20 being able to express they are bored or need to make a request of some sort.  
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24 • Escape - to escape doing something he/she does not want to do or to reduce the  
25 demands being placed on them by people or the environment.  
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29 • Tangible reinforcement - to get a preferred item or participate in an enjoyable activity.  
30 Examples might include drinks, food, or being a preferred item (e.g. DVD).  
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34 • Physical discomfort - to cope with pain or discomfort which they are unable to express  
35 through other communicative functions.  
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39 • Sensory/non-social reinforcement - The individual behaves in a specific way because it  
40 feels good to them or regulates the central nervous system (such as sensory stimulation  
41 or self-soothing).  
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43 Hence, it could be hypothesized that the state factors associated with a risk of HSB in clients  
44 with autism and ID could be viewed as a behaviour which is designed to meet one of the  
45 aforementioned needs. This is reflected in the Multi-Component Model of HSB for people  
46 with autism and ID (see Figure 1) whereby the person enters a situation with certain  
47 vulnerabilities which are both biological and neurological and with prior learning of how  
48 sexual behaviour is paired with an outcome. When they experience a change in internal or  
49 external states which they seek to change, they can engage in HSB whereby the motivation is  
50 to influence sensory, attention, escape, physical or tangible stimuli. This then adjusts the  
51 person's internal or external stimulus and reinforces HSB as a means of achieving human  
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needs. The social learning of prior HSB is kept as a vulnerability factor in the model because establishing the origins of social learning in adults with Level 2/3 autism and ID can often be difficult due to difficulties in recall and verbal expression. In addition, the model highlights that understanding the origin of social learning is not a pre-requisite for modifying HSB as this can be achieved through attending to the function of the behaviour for the individual as an adult. The following section explores how these functions of behaviour (or need factors) can be identified.

**Figure 1 - Multi Component Model of Harmful Sexual Behaviour for people with Autism and ID**



Positive Behaviour Support (PBS) uses functional assessment to identify the contingent relationship between: target behaviours; environmental antecedents; consequences; and the quality and duration of reinforcers (Linscheid et al., 1996) to develop functionally appropriate interventions (Sprague and Horner, 1995). The primary goal of PBS is to support the person to meet their needs in ways that improve their quality of life and includes an analysis of biological and social variables prior to treatment implementation (Van Houten et al, 1988). Thus, PBS maps well onto the revised ITSO and GLM models because it takes into account all of the factors which may contribute to a behaviour, as well as identifying the fundamental human need which the behaviour is achieving. Treatment focuses on:

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3 (1) Weakening the relationship between the target response and its maintaining reinforcer.  
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6 (2) Strengthening the response-reinforcement relationship of a substitute adaptive behaviour  
7 through teaching functional replacement behaviours and making modifications to the  
8 environment (Sprague and Homer, 1995).  
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11 PBS treatment interventions also target state factors as opposed to some of the interlocking  
12 neuropsychological functions and brain development which have less plasticity in this client  
13 group (e.g. perspective taking, impulse control etc). This mirrors interventions designed to  
14 reduce HSB in neuro-typical populations (Andrews and Bonta, 2010) but PBS also enables  
15 interventions to be targeted at an appropriate level for the individual. For example, current  
16 interventions in the neuro-typical client group and in the ID client group adopt cognitive  
17 behavioural therapy (CBT) based interventions to modify thinking patterns and behaviour and  
18 enable skills development (such as SOTSEC-ID: Murphy, Sinclair and Hays, 2010). Although  
19 these are well adapted for the ID population, they are not targeted at clients with Level 2 and  
20 3 autism who are unlikely to be able to identify feelings and thoughts that contributed to their  
21 offending due to mindblindness, alexithymia, limited receptive and expressive verbal  
22 communication and difficulties with abstract concepts such as time (differentiating past and  
23 current thoughts). Hence, it is proposed that CBT interventions have questionable efficacy  
24 with this client group (Vollmer, Reyes, and Walker, 2012) whereas PBS allows a multi-  
25 component behavioural intervention (MCBI).  
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36 Thus, the state factors and resultant treatment based on neuro-typical populations identified  
37 in the ITSO would seem to have limited applicability to clients with Level 2/3 autism and a  
38 moderate ID. The following section suggests practical interventions which could be  
39 considered for each of the state factors for clients with Level 2/3 autism and an ID.  
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#### 43 Sensory

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45 According to Tomchek and Dunn (2007) sensory processing refers to the way the brain  
46 processes incoming sensory information (visual, auditory, tactile, taste, proprioceptive and  
47 vestibular input - processed in the cerebral cortex) in order to adapt to the environment.  
48 Incoming sensory stimuli is regulated in the neuro-typical population however, this is less  
49 adaptive in people with autism (Tomchek and Dunn, 2007).  
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3 Sensory Processing consists of four quadrants of the sensory profile and how the central  
4 nervous system (CNS) receives messages from the senses and turns them into motor and  
5 behavioural responses (Tomchek and Dunn, 2007). These are:  
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- 8 1) low registration (the amount of sensory input to stimulate a person);
- 9 2) sensation seeking (where the person acts to seek out sensory stimulus);
- 10 3) sensory sensitivity (where the person does not require a large amount of stimulus to  
11 activate the central nervous system);
- 12 4) sensation avoiding (where the person actively avoids stimulus).
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18 It is argued that sexualised behaviours may be an attempt by the individual to regulate the  
19 CNS which would explain why this behaviour is more prevalent in people with a sensory  
20 processing disorder such as adults with autism and ID. For example, the individual with a low  
21 neurological threshold requires a lower amount or intensity of stimuli to initiate awareness of  
22 and responses to stimulus. Conversely a high neurological threshold requires more intense  
23 stimulus for the nervous system to respond. Thus, a person with a high neurological threshold  
24 for touch (so they require a large amount of touch stimulus to process experiencing it) may  
25 engage in 'grabbing' of others in order to process touch sensations. This may serve two  
26 functions. Firstly, they may engage in more intensive touching of others because they cannot  
27 experience 'light' touch so they grab tightly because their body cannot sense they are holding  
28 another thus hurting the other unintentionally. Secondly, through a system of reinforcement  
29 they learn that 'grabbing' may result in physical restraint which provides large amounts of  
30 touch stimulus, thus meeting their threshold for touch stimulation and reinforcing HSB.  
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40 Hence, if the primary function of HSB is an attempt to regulate the CNS then specific  
41 interventions can be designed for this such as: developing a suitable living environment  
42 (Henry, 2012); creating sensory diets/menus (Bogdashina, 2003); and sensory design theory  
43 (Mostafa, 2014) to assist people with HSB, autism and ID to meet their sensory needs in more  
44 pro-social ways.  
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#### 49 Escape

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51 Escape relates to the person being overwhelmed with the environment due to the demands  
52 being placed upon them being too difficult due to the nature or complexity of the task. The  
53 instruction, 'Calm down and go and get your trainers on and don't forget to do the laces up.'  
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3 They are where you left them last time and then we can go out in 10 minutes to that new  
4 restaurant' would require the person to understand what 'calm' meant, how to 'calm  
5 themselves' to recall where their trainers were located, how to do them up, have the  
6 dexterity of movement to tie them and to understand the concept of time in terms of  
7 understanding how long 10 minutes is and to imagine a place they have never been to or  
8 seen. In such instances the person may engage in behaviours which result in the demand  
9 being removed (e.g. if they indecently expose themselves, others tell them they cannot go out  
10 and the overwhelming tasks are removed - negative reinforcement). Thus, HSB act as a means  
11 to escape (person or environmental) demands which are overwhelming.  
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18 Interventions could begin by undertaking baseline assessments of adaptive living skills and  
19 using 'Active Support' as a means of staggering the demands placed upon the individual.  
20 Active Support is a person-centred approach whereby the goal is to enable the person to be:  
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- 24 • engaged in doing things
- 25 • participating, making choices/decisions
- 26 • being active every day and throughout the day whenever there is an opportunity
- 27 • consistently providing enough structured support which is predictable
- 28 • engaging the person meaningfully in ways that provide enhanced esteem and are  
29 focused on the needs, preferences, and goals of the person.  
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35 Active Support is based on Seligman's (2011) PERMA model which had five core elements of  
36 psychological well-being and happiness to help people reach a life of fulfilment, happiness,  
37 and meaning. This also mirrors positive psychology approaches (e.g. the 'Good Lives Model')  
38 in terms of enabling a person to meet basic human needs. In Active Support, participation and  
39 providing the right level of assistance is promoted by using Activity Support Plans to organise:  
40 household tasks; personal self-care; hobbies; social arrangements etc. This is balanced with  
41 the right availability and grade of support the person requires. For example, a verbal prompt  
42 on how to use a toaster provides a lower level of assistance than hand on hand support to put  
43 the bread in the toaster. However, the purpose is to enable the individual to better tolerate  
44 demands for complex tasks and the support is person-centred. Active Support also maps onto  
45 the revised ITSO because it focusses on quality of life and meeting functional needs through  
46 pro-social means. In the example given, the person could be provided with hand on hand  
47 support to tie their shoe laces, prompts to set their stop watch so they can count down 10  
48 minutes etc.  
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### Attention

One method through which the person may learn to obtain attention is through engaging in HSB. For example, 'John masturbates in the lounge causing staff to enter the lounge asking him to stop and asking if he would like to do something else'. In this function HSB is positively reinforced because the person receives attention as a result of HSB. Consequently, interventions in this function attend to teaching the person how they can receive attention in alternative ways. According to Trembath et al. (2014) adults with ASD and complex communication needs may benefit from using Augmentative and Alternative Communication (AAC). AAC involves alternate methods of communicating needs, feelings, ideas, and perceptions through electronic and non-electronic devices that provide a means for expressive and receptive communication for people with limited or no speech.

Low tech AACs include, picture exchange communications systems (PECS), manual communication boards, symbols, visual schedules, signs and gestures (e.g. Makaton) etc. High tech AAC's include mobile phones, iPads with applications, videos for instructional training, robots, noise cancelling headphones, and reading aids such as coloured filters etc. Thus, new communicative behaviours are taught in order to replace behaviours of concern (see Chan et al., 2009) and this could extent to HSB.

### Tangible

Tangible positive reinforcement occurs when HSB is rewarded by a tangible item (e.g. drinks, food, or being offered something pleasurable such as a DVD). For example, the person could shout sexual words and threats towards another resulting in staff entering the room and saying 'calm down, why don't you come and have a cup of tea'. Hence, interventions involve teaching the person to use AAC to communicate their need for tangible items. If they did not have the vocabulary to describe hunger or thirst or have the self-awareness to recognize this was the emotion they were experiencing they could be taught the name for when their tongue feels dry as being 'thirsty' and that having a drink may help with this. Aids such as Social Stories™ (Gray, 2000) could assist the person to recognize (using imagery) 'when I am thirsty my tongue feels dry. When my tongue feels dry I could show my cup to a member of staff and say the word drink'. In addition, aids such as 'now and next' and visual planners may assist the person to recognise what time of day it is and what happens at that time of day (such as when they will next have a drink) . Thus, the function of HSB in this instance relates



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3 to obtaining tangible rewards which the person could be taught alternative methods of  
4 obtaining.  
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### 6 7 Physical 8 9

10 In the case of Level 3 autism the person may not be able to name the part of the body that  
11 hurts or even point to it, or to recognise that the different feeling that part of the body is  
12 experiencing is pain. HSB in response to this could be, for example someone who excessively  
13 masturbates against public objects as a means of distracting their attention from pain in a  
14 part of their body elsewhere (e.g. toothache). Thus, interventions with a Speech and  
15 Language Therapist (SaLT) could teach the person to locate and point to different parts of  
16 their body, to communicate if that part of the body feels 'good' or 'bad' and how to point to  
17 ask for a tablet or medicine. Social Stories™ could teach them what to expect when they  
18 attend a GP/Dentist (e.g. who might be there, what to expect in the environment, potential  
19 smells or equipment that might be there).  
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### 26 27 Multi-functional 28 29

30 It is important to note that a person may use one behaviour (e.g. public masturbation) as a  
31 means of achieving multiple functions. For example, they may do this when: they are bored to  
32 obtain attention; to regulate sensory input; when they are overwhelmed; when they want an  
33 item; and/or when they are in pain. Hence, people in this category would require the full  
34 range of interventions. Thus, as with any ABA it is imperative that the function(s) of the  
35 behaviour are clearly established from the outset in order to determine which (or all) of the  
36 interventions may be of benefit.  
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### 42 Conclusions and Recommendations 43 44

45 As with neuro-typical populations, HSB in people with autism and ID can be regarded as  
46 having multiple components. In addition, the benefit of identifying the function of the  
47 behaviour is that it provides potential alternative methods of achieving an outcome without  
48 the need for HSB. Thus, by attending to the function and using autism specific methods to  
49 compensate for neuropsychological deficits this provides a promising basis upon which HSB in  
50 this client group could be reduced. Furthermore, this model has the benefit of being  
51 behaviourally based, multi-factorial and focused on attending to human needs and quality of  
52 life. However, it is noted that the limitations of the model are that it applies to a very specific  
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3 client group and future research should seek to explore both the utility of the model with this  
4 client group as well as if the model can be generalised across populations (e.g. females,  
5 adolescents etc.).  
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### 8 Implications for practice

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11 • CBT based interventions based on the state factors for a neuro-typical population may  
12 lack applicability for clients with Level 2 and Level 3 autism and ID. This is not a criticism  
13 of the revised ITSO which noted that sexual offending treatment should be targeted at a  
14 multi-level approach. This is consistent with Ward, Clack and Haig (2016) who argued that  
15 effective treatment of harmful sexual behaviour should involve a case formulation and  
16 the Abductive Theory of Method (ATOM), which acknowledges that treatment could  
17 extend beyond CBT for attending to state factors. This model proposes methods by which  
18 interventions attend to the neuropsychological functioning of an individual.  
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- 21 • Future interventions for clients with autism and ID should attend to Functional  
22 Behavioural Assessment (FBA) with a precise description of the behaviour, its context, and  
23 its consequences. This should include an environmental assessment, direct observation,  
24 understanding setting events and slow triggers, fast triggers, interview data from people  
25 supporting the individual and ABC data which specifically attends to the consequences of  
26 behaviour to ascertain functionality. Data on medical history, medication and physical and  
27 biological factors should also be gathered in order to ascertain the inter-locking  
28 neuropsychological functions which the person brings to the situation.  
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- 31 • Interventions for managing HSB for people with Level 2/3 autism and ID should match the  
32 function of the behaviour and assist the person to meet their human needs in ways that  
33 do not involve HSB and instead promote quality of life which would be consistent with  
34 desistance theories and a genuine good life plan (GLP) or a unique "roadmap" (Yates,  
35 Prescott and Ward, 2010, p.155). 'Treatment' is not a pre-requisite for acquiring  
36 capabilities and this should attend to both the internal and external conditions required  
37 to implement a good lives plan (Laws and Ward, 2011).  
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- 40 • Future treatments for HSB in clients with autism and ID could include providing sensory  
41 diets to meet sensory needs, teaching alternative strategies for seeking out 'deep  
42 pressure' or attention in ways that do not involve HSB, using picture communication,  
43 information technology or Makaton to communicate needs or using Social Stories™ to  
44 explain the consequences of behaviour.  
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- Neuro-atypical interventions which attend to the neuropsychological functioning of clients (such as sensory diets) could also be included in treatment for neuro-typical clients thus ensuring that interventions attend to every aspect of the ITSO and not purely state factors.

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