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Sexual Homicide and Paraphilias: The Correctional Service of Canada's Experts Forum 2007

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Sexual Homicide and Paraphilias: The Correctional Service of Canada's Experts Forum 2007

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and

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Editors

Published by the Correctional Service of Canada – 2008

Library and Archives Canada Cataloguing in Publication

Sexual homicide and paraphilias [electronic resource] : The Correctional Service of Canada's Experts Forum 2007.

Electronic monograph in PDF format.
Issued also in French under title: Homicides sexuels et paraphilies : Forum d'experts du Service correctionnel du Canada 2007.
Issued also in printed form.
ISBN 978-1-100-10334-1
Cat. no.: PS84-16/2008E-PDF

1. Sex crimes — Congresses. 2. Paraphilias — Congresses. 3. Psychosexual disorders — Congresses. 4. Homicide — Congresses.
I. Correctional Service Canada

HV6556.S49 2008 364.15'3 C2008-980272-1

Printed and bound by Tri-Graphic Printing

Group Picture

Back Row – From left to right
Ruth Simmons, Lucille Meikle, Tracey Abbott, Bruce Malcolm, Caroline Pagé, Jan Looman, Andrew Harris, Anton Schweighofer, Yolanda Fernandez, Mary Ann Kane, Jenelle Power, Jan Sutton and Jan Fox

Front Row – From left to right
Stephen Hart, Douglas Mossman, Michael Margolian, Jean Proulx, Derek Perkins, John Bradford, Adam Carter and Ian Barsetti

Missing from the picture Bruce Arrigo

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Biographical Sketches

Bruce A. Arrigo, Ph.D., is Professor of Crime, Law, and Society within the Department of Criminal Justice at the University of North Carolina, USA. Dr. Arrigo received his Ph.D. from Pennsylvania State University in the Administration of Justice (specializing in justice policy and the legal environment) with additional graduate academic training in law, psychology and sociology. Dr. Arrigo's scholarship explores the normative, theoretical, empirical, and policy dimensions of various issues in law, psychology, and politics; violence, deviance, and crime; and critical social theory and philosophical criminology. He is the author of more than 130 journal articles, book chapters, and scholarly essays and the co-author or co-editor of 25 volumes published or currently in press. Dr. Arrigo is a past recipient of the Criminologist of the Year Award (2000), an elected Fellow of the American Psychological Association (2002), as well as an elected Fellow of the Academy of Criminal Justice Sciences (2005).

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Adam J. Carter, M.Sc., C. Psychol., AFBPsS., is a Principal Psychologist for Her Majesty's Prison Service. He is currently working at the Offending Behaviour Programmes Unit in London, England. Adam received his M.Sc. in Applied Criminological Psychology at the University of London and he is currently a Doctoral Candidate in Forensic Psychology at the University of Leicester. His principal research interest is with sexual murderers. Adam currently works within the team of Chromis, a specialized program for dangerous and psychopathic offenders. His responsibilities include staff training in the delivery of Chromis, revisions and updates of treatment manuals and provision of specialist advice on treatment issues. Adam has a wide range of experience as a Forensic Psychologist working in HM Prison Service having been based at three different establishments, with overall responsibility for Psychological Services at two of these. He has worked predominantly in the assessment and treatment of sexual offenders with particular expertise in dealing with sexual killers.

Stephen David Hart, Ph.D., is Professor of Forensic Psychology at Simon Fraser University, BC, Canada. He received his Ph.D. in Clinical Psychology from the University of British Columbia. Dr. Hart's scholarship explores the assessment of risk in practical application to violence and sexual risk assessment. He is the author of more than 125 journal articles, book chapters, and scholarly essays. He is also the author or co-author of 14 published books and assessment manuals. Dr. Hart has over 25 peer-reviewed abstracts and he has presented all over the world in his area of expertise. Dr. Hart is a past recipient of the Career Achievement Award (2003), the Jerome Fisher Memorial Lecture Award (2001), as well as the Saleem Shah Award for Early Career Research Excellence in Psychology and Law (1995).

Douglas Mossman, M.D., is Professor and Director of the Division of Forensic Psychiatry at the Wright State University School of Medicine, and Administrative Director of the Glenn M. Weaver Institute of Law and Psychiatry at the University of Cincinnati College of Law. He is a graduate of the University of Michigan Medical School and the University of Cincinnati General and Child Psychiatry residency training programs. Dr. Mossman lectures frequently to medical and legal audiences at local, regional, national, and international meetings, and he has more than 55 peer-reviewed abstracts from presentations all over the world. He has authored more than 100 publications on legal and ethical issues, medical decision-making, violence prediction, statistics, and psychiatric treatment. His recent scholarly projects investigate prediction of sex offender recividism, the mathematics of risk, competence to stand trial, and adjudication of accused stalkers. Dr. Mossman is a Distinguished Fellow of the American Psychiatric Association, a councilor of the American Academy of Psychiatry and Law (AAPL) and a past-president of AAPL's Midwest Chapter.

Derek Perkins, Ph.D., A.B.Ps.S., C.Psychol., is a Professor and the Head of Psychology, Forensic Services and Head of Psychology, Broadmoor Hospital for the West London Mental Health Trust in London, England. He received his Ph.D. from the University of Birmingham, specializing in the psychological treatment of sexual offenders in prison and the community. Dr. Perkins' research interests include sexual and violent offenders. He has published over 20 articles and book chapters. Dr. Perkins has held various positions as a Consultant and Researcher and has been an Expert Witness in relation to risk assessment and life-sentenced prisoners convicted of sexual homicides.

Jean Proulx, Ph.D. is Professor and Director of the School of Criminology at the University of Montreal, and Researcher at the International Centre for Comparative Criminology of that university. Dr. Proulx's main research interests are personality profiles, sexual preferences, treatment issues, and recidivism risk factors among sexual murderers, rapists, child molesters and incest offenders. Over the last twenty years, Dr. Proulx has published five books and more than 100 book chapters or referred articles both in French and English. Since 1989, he has been an active Researcher and Clinical Psychologist in treatment programmes for sexual offenders at the Philippe-Pinel Institute, a maximum-security psychiatric institution in Montreal, Quebec.

CSC Staff Biographical Sketches

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Jan Fox is a District Director at the District Parole Office in Edmonton (Alberta/ NWT) who has worked for CSC for 26 years. Jan's primary interest is the community supervision of offenders.

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Mary Ann Kane is a Senior Project Manager at CSC National Headquarters in the Institutional Reintegration Operations Division, Offender Programs and Reintegration Branch, as part of the Correctional Operations and Programs Sector. She has worked for CSC for 17 years after spending 4 years with the RCMP. Mary Ann's area of interest is all aspects of institutional case management.

Jan Looman is a Psychologist and the Program Director of the high intensity sex offender treatment program at the Regional Treatment Center (Ontario) and has worked for CSC for 14 years. Jan's primary research and clinical interest is in the treatment of high risk sexual offenders.

Bruce Malcolm is a Psychologist and A/Manager of Sex Offender Programs at National Headquarters. He has worked for CSC for 30 years. Bruce's primary clinical interest is with the assessment, treatment and management of sexual offenders.

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Caroline A. Pagé is a Psychometrist and Research Manager at CSC National Headquarters. Caroline has worked at NHQ for 5 months and has previously worked at Warkworth Institution and Kingston Penitentiary. Her clinical and research interests centre around sexual offender treatment and anxiety disorders among offenders. She is currently completing her Ph.D. in psychology at University of Montreal.

Jenelle Power is a Research Assistant at CSC National Headquarters. Jenelle has worked for CSC for 8 months and is currently a Ph.D. student in psychology at Carleton University. Her research interests include the patient-provider relationship and patient satisfaction. She also teaches at Carleton University and The Canadian National Institute of Health.

Jean Sutton is the Director of Professional Standards and Decision Processes at the National Parole Board (NPB) and has worked for NPB for over 20 years. Jean's primary area of interest is with relevant, reliable and persuasive information for the use of Board Members in conditional release decision making. Jean is responsible for Board member training along with Professional Standards for Board Members, Case Audits and Investigations, and International Affairs.

Anton Schweighofer is a senior Psychologist for sex offender programming at Pacific Institution and has worked for CSC for 10 years. Anton's primary clinical interest is in the assessment and treatment of sexual offenders.

Foreword

This book is part of the Correctional Service of Canada's (CSC) response to the National Joint Board of Investigation into the Release and Supervision of an Offender on Full Parole Charged with First-Degree Murder of a Parole Officer on October 7, 2004 in Yellowknife, Northwest Territories. The Board of Investigation was chaired by Andrejs Berzins, a community member; Janice Russell, a permanent incident investigator with the Incident Investigations Branch, National Headquarters, Ottawa; Simonne Fergusson, Regional Director, Ontario/Nunavut Region, NPB; and Titus Allooloo, a community member. The Board of Inquiry was given a very broad mandate and eventually made 138 findings that resulted in 71 recommendations. Board of Inquiry (BOI) recommendation number 45 reads

> "The BOI recommends that the CSC conduct further extensive research on the most effective methods for the diagnosis and treatment of paraphilias, including sexual sadism and necrophilia. The research should include drug treatment and conditions under which offenders with such disorders could possibly be safely managed in the community."

In response to this recommendation the Research Branch at CSC National Headquarters, Ottawa, after a review of the available scientific literature, decided to empanel an international expert's forum on sexual homicide and paraphilias with an emphasis on current correctional practice.

The CSC Expert's Forum on Sexual Homicide and Paraphilias took place in Ottawa on September 30th and October 1st, 2007. Douglas Mossman was tasked with illuminating the mathematical processes of actuarially predicting rare events. To base this project firmly within the accepted literature, a speaker was sought who could review the extant models of paraphilic development (Bruce Arrigo), incorporating the hypothesized mechanism of paraphilic escalation that is currently seen as essential for the understanding of paraphilias. This presentation was necessary so that subsequent research proposals would be firmly grounded in current theory.

Issues of identification, diagnosis, and assessment (Derek Perkins) were seen as important as clinicians and staff struggled to define the nature of the problem before them. Medical management and the role of pharmaco-therapy were also reviewed (John Bradford). Risk assessment was addressed (Steve Hart) as was treatment and intervention (Adam Carter) for offenders with paraphilias. The forum was

chaired by the eminent researcher and academic Dr. Jean Proulx of the University of Montreal who also summarizes the meeting for this book.

The expert discussions that arose from the presentations were transcribed and edited for inclusion after each of the scientific papers, giving the reader a feeling for the nature of the scientific and practical discussions that were an important component of this forum.

In conclusion we would like to thank Professor Franca Cortoni, currently on faculty at the University of Montréal, formerly of the Research Branch, National Headquarters CSC, for her development of the concept of the Expert's Forum on Sexual Homicide and Paraphilias. We would also like to thank Jenelle Power, Research Branch, CSC, for her able assistance in the preparation of this forum and; Professor Don Andrews, Carleton University; and R. Karl Hanson, Public Safety Canada, for collegial and helpful suggestions on the format and constituents of the expert forum.

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The opinions expressed in this report are those of the authors and do not necessarily represent the views of the Correctional Service of Canada.

The Role of Escalating Paraphilic Fantasies and Behaviours in Sexual, Sadistic, and Serial Violence: A Review of Theoretical Models

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ABSTRACT

This chapter examines the emergence and escalation of paraphilic fantasies in relation to sadistic, sexual, and serial violence. Of particular interest is violence that results in lust murder, also known as erotophonophilia. To situate the chapter, background material on paraphilic research, sexual offending, and serial murder is delineated. In addition, the three principal theoretical frameworks that address this subject-matter are reviewed. Several suggestions about future theory testing and the direction of research on paraphilic fantasy development and lust murder are tentatively enumerated.

The Role of Escalating Paraphilic Fantasies and Behaviours in Sexual, Sadistic, and Serial Violence: A Review of Theoretical Models

This chapter examines three theories of violence that result in murder. The first framework focuses on sexual killing; the second scheme addresses repetitive homicide; the third model accounts for sadistic slayings, both sexual and serial in orientation. The purpose of reviewing these theories is to assess the contributory role that escalating deviant sexuality assumes in the commission of such criminal acts. Of particular concern is the increasingly violent and complex fantasy system that fosters the emergence and progression of sadistic, sexual, and serial offending. In the extreme, this includes the act of lust murder. However, before addressing these concerns, some preliminary commentary on the development and scope of the research on these interrelated topics is warranted.

Research on Paraphilia, Sexual Offending, and Serial Murder

Paraphilias (or deviant sexualized thoughts, impulses, and/or behaviours) are unique, bizarre, and, often times, violent in nature (Abel, Becker, Cunningham-Rather, Mittleman, & Rouleau, 1988; Hickey, 2003). Moreover, when enacted, they constitute an exclusive category of sexual offending (Adson, 1992; Dietz, Hazelwood, & Warren, 1996). Expressions of such aberrant sexuality are diverse and manifold (e.g., voyeurism, fetishism, exhibitionism), and many of them are criminal in nature (e.g., necrosadism, necrophilia, pedophilia, cannabilism) (Abel & Osborne, 1992; Arrigo & Purcell, 2001). In his most recent research on the subject, Hickey (2006) devised a classification system concerning the phenomenon of paraphilia. Five such categories were noted and included the following: 1) non-violent, physical; 2) nonviolent, non-physical; 3) sadistic; 4) masochistic; and 5) sadomasochistic. Of these, sadistic paraphilia is most germane to this chapter, especially since it can lead to sexualized violence including serial homicide (Purcell & Arrigo, 2006).

Deviant sexual behaviour exists on a continuum (Hickey, 2003). These behaviours vary in severity from mild, to moderate, to severe. The average number of paraphilias is 4.8 per person (Holmes & Holmes, 2002). Multiple paraphilias are often found in an individual; however, one expression of aberrant sexuality typically becomes dominant until it is replaced by another such manifestation. On the most extreme end of the paraphilic continuum is *erotophonophilia*. This form of aberrant sexuality is also known as lust murder.

Erotophonophilia entails the acting-out of deviant behaviour by means of brutally and sadistically killing the victim in order to achieve ultimate sexual satisfaction (Douglas, Burgess, & Ressler,1995; Simon, 1996). Lust murderers are likely to repeat their offenses, thereby making them serial in disposition. Mutilation of body parts, especially the genitalia, is a standard feature of this paraphilia (Hickey, 2006). Typically, this crime is committed by men. To date, sadistic sexual homicide has typically been viewed as a perplexing phenomenon. It has defied efforts at useful explanatory and predictive models, despite being based on some systematic theory-driven conceptualizations. However, what we know thus far is that fantasy is a key component to understanding and interpreting lust murder (MacCulloch, Snowden, Wood, & Mills, 1983; Schlesinger, 2003). This notwithstanding, a cogent theoretical formulation regarding the role of paraphilic imagery as a driving force or motive for explaining this form of sexual criminality, has mostly eluded researchers.

Studies contributing to our conceptual understanding of sadistic sexual homicide include the work of MacCulloch et al. (1983), Burgess, Hartman, Ressler, Douglas and McCormack (1986), and Hickey (2001, 2006). Earlier research by DeRiver (1949) on the sexual criminal and Brittain (1970) on the sadistic murderer are also noteworthy. In their respective ways, inquiries conducted by these latter two investigators established some of the important conceptual groundwork for those studies that followed.

MacCulloch et al. (1983) were instrumental in demonstrating how a pattern of sadistic fantasies propels sexual criminals into compulsive acts, first in the form of imagery and then in the form of assaultive conduct. Their findings suggested that when erotic arousal is involved in the sadistic image, offenders are increasingly motivated to act out their violent thoughts and impulses understood in terms of habitual behaviour. This repetitive conduct, sexual and violent in nature, is linked to conditioned responses and *cognitive* interpretations (and distortions) regarding the fantasies themselves.

Extending the cognitive model of MacCulloch et al. (1983), the Federal Bureau of Investigation introduced a *motivational* dimension to sexual homicide (Burgess et al. 1986; Douglas et al., 1995). They argued that fantasy was an internal driving mechanism for serial acts of sexual violence. However, they also pointed out how the interaction of critical personality traits and cognitive mapping processes were integral to generating the sexual images that produced violent behaviour.

Unlike MacCulloch et al. (1983) who addressed sadistic fantasies, thoughts, and impulses, and unlike Burgess et al. (1986) who focused on sexual homicide per se, Hickey's (2001) work more squarely considered serial murder. Mindful of the previous literature on cognition and motivation, Hickey assessed how certain predispositional factors and facilitators led some individuals to engage in serial murder.

His framework demonstrated how psychological and/or physical *traumatic events* occurring in the formative years of a person's life could function as triggering mechanisms whereby increasingly violent images, fueled by facilitators (e.g., alcohol, pornography, drugs), produced homicidal behaviour (Egger, 2002; Giannangelo, 1996).

The models enumerated above do not specifically examine serial lust murder. However, efforts to do so recently have appeared (Arrigo & Purcell, 2001, 2006; Purcell & Arrigo, 2006). Defined as the *Integrated Paraphilic Model* (IPM), investigators have integrated previous work on sexual homicide and serial murder. The IPM expressly accounts for the emergence, maintenance, and development of paraphilic fantasies, including their relationship to intensified sexual offending such as lust murder (Purcell & Arrigo, 2006). As these investigators have noted, the motivational and the trauma control schemas respectively possess key components suggestive of a viable and useful synthesis. Clearly, both frameworks discuss some aspects of the paraphilic process as a system of behaviour. However, neither of them offers a detailed conceptualization of aberrant sexuality, especially when expressed through the crime of erotophonophilia. The IPM is a theory of serial, sexual, and sadistic violence directly concerned with these under-investigated issues.

Research examining the nomothetic dimensions of sexual offending is also worth noting. In particular, investigators have proposed a synthetic framework that accounts for the network of causal factors resulting in the manifestation of clinical phenomena (e.g., rape, child sexual abuse) (Beech & Ward, 2004; Ward & Beech, 2004, 2006; Ward, Polaschek, & Beech, 2005). Termed the *Integrated Theory of Sexual Offending* (ITSO), the model addresses the ecological and multi-systemic nature of the theory (i.e., vertical depth) and provides a multilevel analysis of sexual criminality (i.e., horizontal depth) (Ward & Beech, 2006). The ITSO examines the etiological correlates of psychopathology (e.g., genetic and environmental factors), brain functioning (e.g., mechanism linked to etiological factors that affect the brain's development), neuropsychological deficits (e.g., psychological systems such as language production and spatial perception that result in human behaviour), and clinical symptomotology (e.g., deviant sexual arousal, mood/thought disturbances (Pennington, 2002; Ward & Beech, 2006).

To date, the relevance and application of the ITSO to serial sexual homicide has not been considered. Moreover, the ITSO focuses on global risk factors (i.e., cognitive distortions linked to different neuropsychological deficits; the ecological niche and habitat of the offender) leading to multiple forms of sexual offending (Beech & Ward, 2004; Ward & Beech, 2004). Thus, the specific role of paraphilic fantasies, impulses, and actions in the emergence and progression of sadistic and erotically-charged repetitive murder is not featured.

Accordingly, based on the extant research, three models warrant further explication. These include the motivational framework of Burgess et al. (1986), the trauma-control schema of Hickey (2001), and the integrated paraphilic model of Purcell and Arrigo (2006). Of particular focus with each of these theories is the role of deviant sexual fantasy for initiating offender behaviour. As such, the ensuing sections review how each framework accounts for the emergence and escalation of eroticized imagery, and how such paraphilic development contributes to repetitive forms of violence, including sexual sadism and/or lust murder.

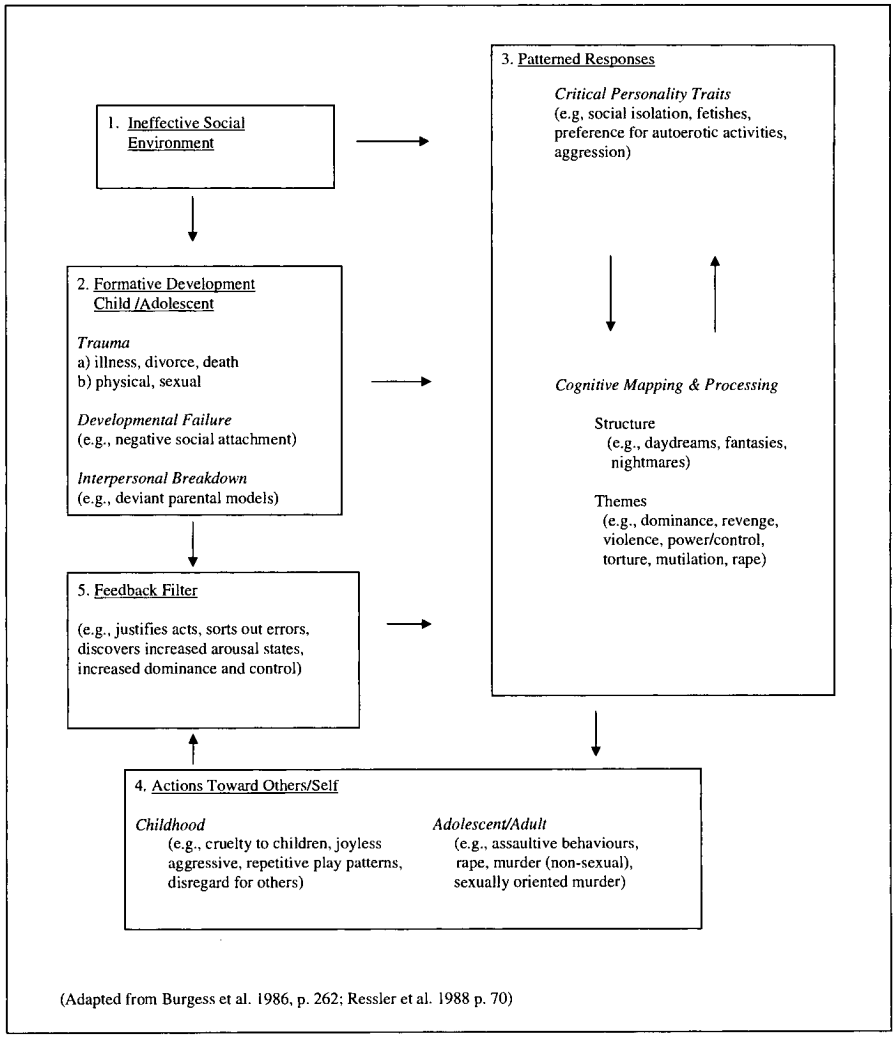
The Motivational Model

Burgess et al. (1986) conducted a study looking at the motivational factors of 36 sexual murderers. They developed a five-phase motivational model to help explain various factors influencing this sadistically deviant behaviour. In addition, they identified specific behavioural patterns linked to the criminal activities of their subjects. Figure 1 visually depicts the elements of the motivational model and the relationships that exist among its various constitutive parts.

Burgess et al. (1986) operationalized sexual homicide as murder in which evidence or observations indicated that the crime had a sexual component. Factors they considered sexual in nature included the following: (1) victim attire or lack thereof; (2) exposure of the victim's sexual parts; (3) sexual positioning of the victim's body; (4) insertion of foreign objects into the victim's body cavities; (5) evidence of sexual intercourse (oral, anal, or vaginal); and (6) evidence of substitute sexual activity and interest in sadistic fantasy (Ressler, Burgess, & Douglas, 1988).

The motivational model focused principally on psychosocial and cognitive factors. The investigators theorized that the men in their sample were motivated to kill by their way of thinking. Research findings from the study's respondents indicated that the subjects had developed early in their lives an actively aggressive fantasy life (daydreaming), had subsequently experienced sexual reinforcement (compulsive masturbation), and had detached themselves from the conventional rules of everyday interaction and conduct (i.e., they engaged in social isolation) (Burgess et al., 1986). In addition to these behavioural characteristics, the motivational model specifically consisted of the following five elements: (1) ineffective social environment; (2) formative events; (3) critical personality traits and cognitive mapping processing; (4) actions toward self and others; and (5) feedback filter (Burgess et al., 1986). Each of these components is summarily reviewed.

Figure 1. Motivational model



(Adapted from Burgess et al. 1986, p. 262; Ressler et al. 1988 p. 70)

Ineffective Social Environment

This component specifies several factors that Burgess et al. (1986) believed contributed to the quality of an individual's social environment. In particular, they considered the developmental aspects of a child's formative years and the salience of that life within the family structure. They noted that healthy family interaction and the child's positive perception of the environment were important aspects for a

child's prosocial development. Moreover, as children mature, the investigators explained that the quality of the attachments to one's parents and other members of the immediate (and extended) family were critical in how one related to and valued other members of society (Arrigo & Griffin, 2004; Burgess et al., 1986). According to the research on the subject, these early childhood attachments are also referred to as *bonding* styles (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969, 1973; Levy & Platt, 1999; Rothbard & Shaver, 1994).

All of the subjects within the study either failed to positively bond with their caregivers as children or developed selective and limited ways of attaching themselves to others. This is because the parents or primary care providers ignored, rationalized, or normalized various dysfunctional behaviours in the developing youth through the adult's own criminal behaviour or illicit substance abuse (Burgess et al., 1986). These ineffective social bonds helped contribute to the child's negative perceptions of reality, as well as to the manifestation of cognitive distortions about self, others, and social situations.

Formative Events in Childhood and Adolescence

There are three distinctive elements that can influence or affect the formative events that unfold during childhood and adolescence. These include trauma, developmental failure, and interpersonal breakdown. Each of these notions is reviewed in the context of the Burgess et al. (1986) motivational model.

The investigators proposed that there are two types of traumatic experiences that can adversely impact a child's development. In brief, these experiences can be normative and non-normative in nature. Normative events include such things as illness, divorce, or death. Non-normative events include such things as physical, psychological, or sexual trauma where the child is directly or indirectly impacted. When operating in concert with an ineffective social environment, the pre-adolescent often feels unprotected and confused about the event encountered and its significance in his or her life.

One assumption operating within the motivational model regarding early traumatic events is that the child's memories of frightening and upsetting life experiences shape the youth's developing thought patterns (Burgess et al., 1986). This supports the assertion that thinking patterns can emerge in the form of daydreams and fantasies, and that the child can both profoundly and thoroughly retreat into the fantasy world. In instances such as these, the socially isolated individual may come to relive (in imaginative form) the trauma he or she literally experienced or witnessed. If the child is unsuccessful in resolving these early traumatic event(s), the failure to reconcile them can reinforce feelings of hopelessness, helplessness, and despair. Thus, fantasy and daydreaming represent socially acceptable ways in which the in-

dividual escapes the troubled and frightening reality where the child lacks control. Indeed, fantasy enables the child to have ultimate control and dominion over any situation manufactured or any individual imagined.

Developmental failure is the second factor that contributes to the formative event component of the motivational model. This failure occurs when the quality of the relationship between the child and the primary caregiver is unhealthy, negative, or dysfunctional in overall orientation. In these instances, the child is unable to attach to the parent or parental surrogate (Ainsworth et al., 1978; Bowlby, 1969, 1973), resulting in a negative social bond. As such, the child may feel generally neglected and emotionally deprived.

The third factor, interpersonal breakdown, pertains to the failure of the adult caregiver to serve as an appropriate, positive role model for the child during the course of the pre-adolescent's development. It also refers to the primary caretaker's lack of prosocial involvement in the child's life. Thus, if the child's home environment is one in which violence is routinely experienced, these aggressive acts may become unconsciously associated with the inappropriate sexual behaviour of the adult caregiver (Burgess et al., 1986).

Patterned Responses to these Events

Two subcategories are located within this component of the model. These include critical personality traits and cognitive mapping and processing. When these two elements interact with one another, they generate fantasies (Burgess et al., 1986).

Personality traits can either be positive or negative in nature. Positive personality traits are a result of a growth and maturing process wherein the child engenders feelings of security, autonomy, and trust in others. Facilitating this fluid and natural evolution is the nurturing and caring relationship the parent provides and/or cultivates with the developing child. Ultimately, ongoing exposure to these experiences enables the preadolescent to establish positive, genuine, and meaningful relationships with and attachments to others. Indeed, when operating in tandem with the presence of an effective social environment, the child individuates and establishes competency and autonomy (Burgess et al., 1986).

When negative personality traits are encouraged in the child's early development, the youth has difficulties forming prosocial emotional bonds (Ainsworth et al., 1978; Bowlby, 1973; Levy & Platt, 1999). As a result, the child is unable to approach others in a confident manner, and the likelihood of social isolation increases. Social isolation allows the child to become reliant on fantasy as a substitute for the human encounters she/he is now incapable of experiencing. Moreover, the child's personality structure is such that the youth becomes heavily (indeed, excessively) dependent on the fantasy life and its dominant themes, rather than on any routine or healthy social interaction (Burgess et al., 1986).

In addition to social isolation, these emotionally troubled children increasingly harbor a cynical and negative view toward others, as well as the society that rejects them. Thus, what emerges is a genuine lack of regard for people, institutions, and the social order. In adulthood, if these feelings of utter disregard for others and the troubling personality traits linked to them are not appropriately addressed in a therapeutic context, they manifest themselves in deviant and criminal ways. In short, the profound sense of social isolation, along with perniciously fermenting anger and hostility combine in the form of fantasy and aggression. These individuals are only able to relate to others through the use of an imaginary system. Indeed, fantasy rather than real lived experience becomes the primary source of emotional arousal. Over time, this emotion transforms itself into a confused mixture of sadistic deviance and sexualized violence (Burgess et al., 1986).

The personality traits critical to the development of the murderers examined in the Burgess et al. (1986) study are worth noting. They included a sense of social isolation, preferences for autoerotic activities, fetishes, rebelliousness, aggression, chronic lying, and a sense of privilege or entitlement. As the researchers noted, these characterological features signified the embodiment of a very disturbed individual; one capable of brutal and sadistic acts of sexual homicide.

The second component of the motivational model informing one's patterned responses to early childhood events is cognitive mapping. This process essentially functions as a filtering system for the individual. The filtering system enables the individual to interpret new information as well as to give identifiable meaning to events that arise within the person's life. Cognitive mapping and processing can take the form of daydreams, fantasies, nightmares, and thoughts with strong visual components. Common themes specified for the 36 subjects of the Burgess et al. (1986) study were fantasies that centered on power, control, dominance, revenge, violence, mutilation, rape, torture, and death. In addition to the presence of these themes as cognitive dimensions for the fantasy systems engendered by the sexual offenders, respondents displayed a lack of regard for established social norms, complete disdain for other human beings and their feelings, and a general attitude of self-entitlement. The themes and cognitions harbored by the subjects of the Burgess et al. (1986) investigation led the researchers to conclude that the sexual offenders possessed antisocial views of reality. Moreover, the cognitive mapping processing activities for their subjects were clearly depicted in the crimes they respectively committed.

Fantasy and thinking patterns become a substitute for prosocial relationships. The imagined world influences and supports the individual's troubled self-concept. The fantasy realm represents a place of complete and unfettered control. The fantasy functions as a substitute for a lack of control over one's internal and external experiences with reality. Escaping into this *pseudo-reality* ultimately enables

the person to experience sexual stimulation. In turn, this arousal reduces the tension, stress, and anxiety the individual likely senses exists or, worse, confronts daily. This process of retreating into a fantasy world eventually contributes to further isolation from reality. Moreover, it becomes the principal source of psychic energy for the emotional life of the individual (Burgess et al., 1986).

In addition to the cognitive mapping processes and critical personality traits, Burgess et al. (1986) also indicated that the subjects of their study experienced a neuron-hormonal influence relative to their sensory arousal levels. As they observed, compulsive, aggressive, fantasy activity could account for a psychobiological mechanism in which certain stressors impacted the operation of the central nervous system, causing a more primal response. This suggests that the murderers encountered a sense of pleasure; that is, an aped response to internal or external stressors or events. Through the use of fantasy, these individuals re-expose themselves to their traumatic triggering experiences. This exposure elicited a primitive response and the individuals embodied a sense of sexual relief. As a result, their preoccupation with aggressive themes, their detailed cognitive activity and mapping processes, and their elevated kinesthetic arousal states eventually compelled the assailants to embark on sexualized criminal action (Burgess et al., 1986).

Action Toward Self and Others

Behaviour patterns of children, adolescents, and adults reflect the private internal world of these individuals. Consistent with the various themes identified in the cognition component of the model, the behaviour patterns of the 36 sexual murderers revealed that their internal worlds were preoccupied with troublesome, joyless thoughts. These cognitions primarily focused on domination over others (Burgess et al., 1986).

Preoccupation with thoughts based chiefly on power, control, and domination manifest themselves at various stages along the developmental continuum (Arrigo, 2006). In childhood, they are expressed through negative play, cruelty toward animals, setting fires, destroying property, and a genuine disregard for others. In adolescence as well as adulthood, these dysfunctional behavioural patterns can become progressively more serious and more intensely violent in nature (Shipley & Arrigo, 2004). Examples include such things as burglary, arson, and assaultive actions toward others; rape and nonsexual murder; and, in the extreme, homicidal actions involving sadistic deviance and sexualized violence (i.e., sexual murder that includes rape, torture, mutilation, and necrophilia); (Burgess et al., 1986).

Burgess et al. (1986) believed that a failure to therapeutically intervene and address the nature of these thoughts, the content of the fantasies, the developmental failure, the ineffective social environment, and the early isolative and/or traumatic ex-

periences to which the child was initially exposed, would significantly impair the person's capacity to function appropriately in society. Indeed, the researchers noted that the individual's cognitions, steeped in images of sexualized violence, would operate as a catalyst resulting in ongoing and increasingly intense abusive behaviour. Moreover, if the child was not counselled on his (or her) responsibility in the commission of these early expressions and deviant activities (e.g., cruelty to animals, setting fires), the behaviour would be reinforced. If no adverse consequences attach to negative behaviour, children continue to engage in such activities and come to regard them as normative. Juveniles who engage in negative or dysfunctional behaviours have a more difficult time with establishing appropriate and healthy friendships with others (Bowlby, 1969, 1973). This failure to make genuine prosocial contact leads to isolationism and retreatism. Moreover, as the investigators concluded, it interferes with the ability to effectively resolve conflicts, to develop positive empathy, and to control impulses (Burgess et al., 1986).

Feedback Filter

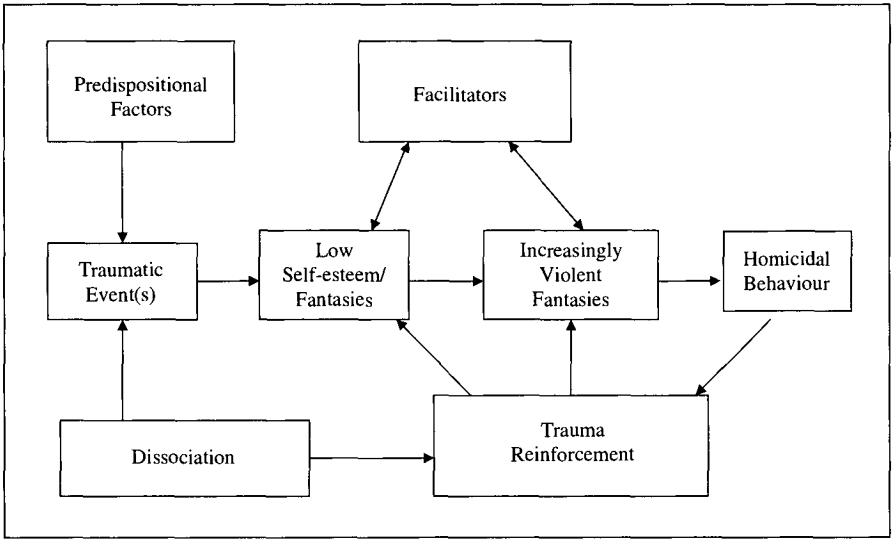
The term *feedback filter* refers to the way in which an individual reacts to and evaluates his or her actions toward oneself and others. The way in which the individual responds to and assesses his or her environment both affects and influences the person's future conduct. Burgess et al. (1986) observed that the subjects of their investigation justified their wayward actions and analyzed their behavioural errors. However, in response to these failures, the respondents made mental corrections in order to preserve and protect their internal fantasy worlds. This activity was undertaken in order to avoid possible restrictions on, or limits from, the external environment.

Given these activities, the fantasy life of the individual was then escalated, especially in terms of the arousal state and the feelings of power, domination, and control that steadily materialized. The sexual murderers reported the acquisition of increased knowledge regarding the avoidance of detection and punishment. These factors were assimilated and accommodated into the self-other-society schema constituted by the individual. Collectively, then, this overall evaluative process entertained by the sexual murderers confirmed (and justified) their assessment of their actions. As such, it functioned as a feedback filter contributing to and sustaining the other elements of the motivational model.

The Trauma-Control Model

Hickey (1997) proposed a trauma-control model to help explain the onset and maintenance of serial murder. His research addressed many of the aspects delineated in the

Figure 2. Trauma-control model



motivational model for sexual homicide as described by Burgess et al. (1986). In addition, however, Hickey (1997, 2001) examined a number of predispositional factors and frequently employed facilitators that would induce an individual to commit serial acts of murder. Figure 2 graphically depicts the operation of the trauma control model. In the subsequent subsections of this chapter, the details of this framework are systematically reviewed.

Predispositional Factors

According to Hickey (1997), some serial killers are known to have certain pre-dispositional factors that can influence their behaviour. They are biological, sociological, and psychological in nature, or otherwise represent some combination of these elements. An example of a biological factor is illustrated by the extra Y chromosome theory, believed to cause violent behaviour (Raine, 1993). Psychological factors include mental illness, personality disorders, or psychodynamic phenomena (Arrigo, 2006). Sociological factors focus on how the environment influences one's developing behaviour, particularly during the formative years of one's life.

Traumatic Events

As previously stated in the explanation concerning the motivational model for sexual homicide, traumatic events can have a profoundly adverse affect on the pre-adolescent's overall maturation and general personality structure. This is especially the

case if such traumatizations occur during the formative years of the child's life. And, as Burgess et al. (1986) noted, examples of deeply distressing encounters either experienced or witnessed include an unstable home environment, sexual, physical, and mental abuse, or any other event deemed negative in orientation and context.

However, Hickey (1997, 2001) asserted that ongoing social and environmental issues might exacerbate these early childhood traumas. When made manifest throughout the lifecourse, these stressful issues could seriously compromise a person's capacity to appropriately interact. Moreover, Hickey's trauma-control model, much like the motivational scheme, addressed the debilitating effects of childhood abuse by an adult caregiver. Indeed, as he observed, the youth often feels a deep sense of anxiety, mistrust, and confusion when psychologically or physically assaulted by a parent or parental surrogate (Hickey, 1997). The adverse personal effects stemming from the experience of violent and traumatic events are also addressed in Hickey's model.

So, what do we know about childhood trauma? First, we know that it can manifest itself in many ways (Kennerley, 2000; Sanford, 1992). However, the research indicates that the most common expression of childhood trauma is rejection (Terr, 1992). In the context of serial offenders, the rejection these individuals experience usually comes from a relative or a parent (Douglas et al., 1995). In addition, as investigators note, an unstable, abusive home life represents one of the primary forms of childhood rejection (Hickey, 1997).

Low Self-Esteem/Fantasies

Other manifestations of rejection can include feelings of personal failure, a sense of hopelessness and helplessness, ostracism in school, and exclusion from social groups and activities (Asher & Coie, 1990; Kennerley, 2000). When young children experience traumatic events in their early development, the events foster feelings of inadequacy, self-doubt, low self-esteem, and worthlessness. Moreover, fantasy and daydreaming typically function as a substitute for the flawed social relationships these youths cultivate or the absence of healthy bonding they engender (Moorman, 2003; Schore, 2003). Often, these interpersonal deficiencies are traceable to low self-esteem and lack of confidence (Glenn & Nelsen, 2001; Terr, 1992). This aspect of Hickey's (2001) trauma control model is compatible with the patterned response factor in the motivational model as developed Burgess et al. (1986).

Dissociation

When children experience psychological or physical trauma in their early development, they are unable to effectively confront and cope with it (Kennerley, 2000). As such, it is quite possible for these children to perceive themselves and their

surroundings in a distorted way. In fact, a process of dissociation can occur (Putnam, 1997). During this process, the individual attempts to regain the psychological equilibrium lacking in and taken from the child's life by those in positions of authority (e.g., parents, teachers). To accomplish this, the adolescent constructs a mask, facade, alter ego, or a veneer of self-confidence and self-control (Hickey, 1997). Typically, these youths want others to believe that they maintain absolute command of themselves and their behaviour. In actuality, they are mostly socially bankrupt and morally inept (Schore, 2003).

In addition, during this dissociative experience, it is also common for the individual to suppress the traumatic event so much so that the child is unable to retrieve the event's particulars or to remember the overall circumstances surrounding it. This lack of recall is often referred to as *splitting off* or *blocking out*. In the context of Hickey's (1997, 2001) research, he examined the work of Tanay (1976), Danto (1982), and Vetter (1990) to help substantiate the notion of dissociation as it pertains to serial murderers. For example, Tanay (1976) reviewed the phenomenon of an ego-dystonic homicide in which the murderer carried out his crime in an altered state of consciousness. Moreover, Danto (1982) observed that a dissociative reaction was attributable to a state of stress and disquietedness wherein the individual's mind was "overwhelmed and flooded with anxiety."

Trauma Reinforcers

Childhood traumas for adult serial murderers ostensibly serve as triggering mechanisms resulting in the individual's inability to cope with the stress of certain problematic and disappointing (but otherwise routine) life events (Hickey, 1997). These routine events may be physical or psychological in nature, or they may manifest themselves as a combination of several traumatizations. An example of a triggering factor is the feeling of rejection from a girlfriend or the experience of criticism from a supervisor. When the individual engenders this feeling of rejection or criticism as an adult, he is either ill-equipped or thoroughly unable to cope with the event in a constructive manner. Consequently, the adult serial offender conjures up emotions and sentiments linked to previous (early childhood) experiences whose nature and content were negative in general structure. Moreover, the individual retreats into his internal fantasy world; this is a haven in which the relived feelings of rejection are abated and the relived feelings of criticism are eliminated. Thus, the person undergoes temporary relief from an otherwise psychically unbearable situation (Douglas et al., 1995; Hickey, 2001; Holmes & Holmes 2002).

Facilitators

Through the course of the trauma-control process, it is customary for the offender to immerse himself in the use of various facilitators. The most frequently used

include alcohol, drugs, and pornography. Indeed, as Hickey (1997) explained, "Alcohol [and other illicit substances] appear to decrease inhibitions and inhibit moral conscience and propriety, whereas pornography fuels growing fantasies of violence". Generally speaking, the assailant employs a combination of facilitators in order to amplify and sustain the sadistic imagery (Hickey, 2006; Holmes & Holmes, 2002).

The serial murderer may become addicted to the facilitating behaviour. This form of addiction is similar to the habituation encountered by those who are dependent on drugs and alcohol (Cleveland, 2002; Hickey, 1997; Jung, 2000). The offender's use of sexually explicit material helps explain the general facilitative process. Initially, the individual experiences the physiological and psychological effects of the pornographic material. This, generates stress in the daily and routine activities the person encounters (Hickey, 2006). As a result, the individual transitions into the next phase in the facilitative process identified as the escalation stage. During this period, the offender's appetite for more intensely bizarre, deviant, and sexually explicit material is heightened (Hickey, 1997). Eventually, the individual becomes so desensitized to the graphic content, that no matter how sexually violently he acts out, he repeatedly immerses himself in sadistic imagery. For the serial murderer, failure to engage in this behaviour means that one's sense of self will remain diminished (Hickey, 2001).

Increasingly Violent Fantasies

Traumatic events occurring in the formative years of a child's development can adversely influence the youth's perception of the world and others, as well as the juvenile's evolving sense of self. Fantasy and daydreaming become a refuge from the world in which the pre-adolescent lives. This internal escape provides a safety net; a haven from a lifetime of external rejection. The consequence of this internal retreat – especially when coupled with the experience of dissociation, adult trauma reinforcers, and the use of various facilitators – produces a synergistic effect. This effect is what makes the emergence and maintenance of increasingly violent fantasies possible.

Homicidal Behaviour

According to Hickey (1997, 2001), the experience of killing may generate new images of brutality. Each subsequent act of violence represents an attempt to completely satisfy and fully realize the perpetrator's degrading fantasies. When interviewed, a serial murderer remarked that "he felt good about himself and more in control of his life directly following a murder" (Hickey, 1997, p. 93). Within the same interview, the murderer also revealed that when he experienced a personal failure in his life, such as criticism at work or rejection from a girlfriend, the event would

act as a catalyst that triggered profound feelings of depression and low self-esteem. As Hickey's (2001) trauma-control model specifies, these deep-seated sentiments foster self-pity, a loss of confidence, and a general sense of rejection in the serial murderer's life. Moreover, the frequency, intensity, and duration of these feelings significantly influence, indeed compel, the individual to engage in a behavioural pattern consisting of increasingly sadistic fantasies. Ultimately, they can (and do) result in the serial torture and killing of young women (Hickey, 2001, 2006; Holmes & Holmes, 2002).

The Integrative Paraphilic Model

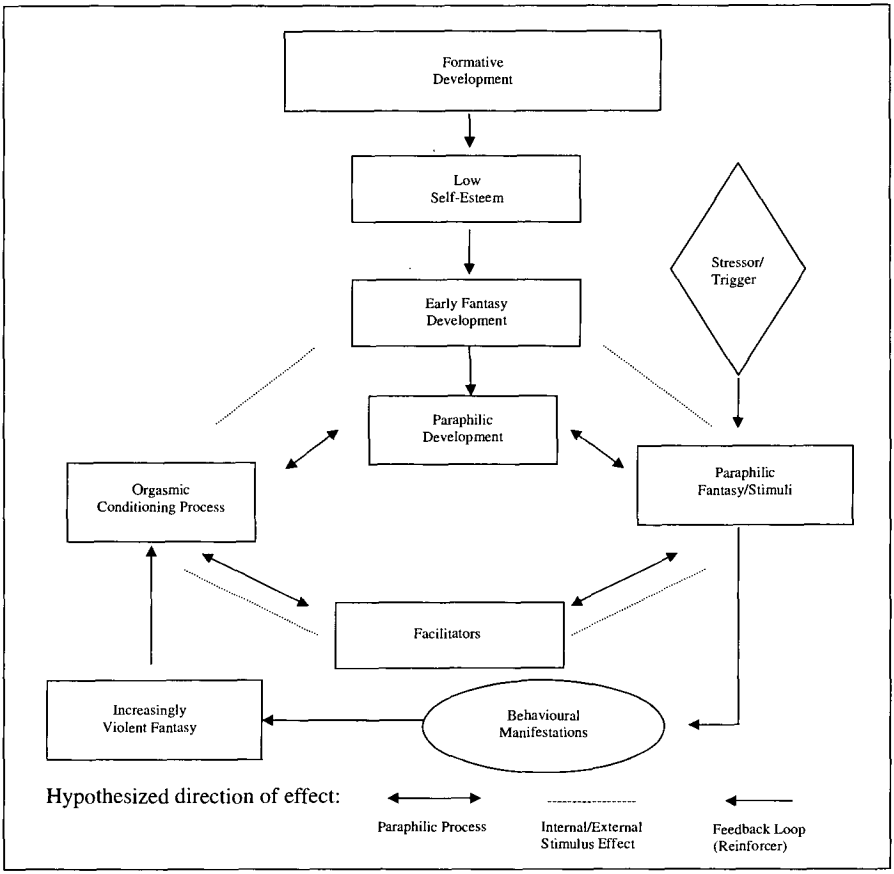
Figure 3 visually depicts the elements of the integrative paraphilic model (IPM). The first four components of the integrative framework explain the systemic composition of paraphilic behaviour. These elements include: (1) formative development; (2) low self-esteem; (3) early fantasy development; and (4) paraphilic development. Formative development (which consists of pre-dispositional factors and traumatic events), low self-esteem, and early fantasy development are all factors investigated as etiological agents. Paraphilic development, paraphilic fantasy/stimuli, facilitators, and the orgasmic conditioning process are interactive elements. Collectively, they comprise the paraphilic process. This is a cyclical process in which increasingly violent fantasies materialize and, when insufficient to establish sexual arousal and/or gratification, give way to behavioural manifestations. Given the fundamental role of the paraphilic process in the commission of sex crimes, these behavioural manifestations include, in the extreme, lust murder.

The IPM is presented in a way that not only explains the evolution of paraphilic behaviours but also illustrates how they function developmentally, sustained by several elements of the paraphilic system itself. Thus, the ensuing organizing scheme conceptually describes both the etiology of this phenomenon as well as its essential disposition.

Formative Development

This initial dimension of the integrative model functions as the foundation on which paraphilic behaviours originate. Formative development refers specifically to childhood and early adolescent experiences. Formative development is comprised of several elements contained within the motivational and trauma-control models respectively. In particular, it is a direct integration of the "ineffective social environment" and the "formative events" components of the motivational model, as well as the "predispositional factors" and "traumatic events" features of the trauma-control

Figure 3. Integrated model on paraphilia and lust murder



framework. Thus, consistent with the explanations provided by Burgess et al. (1986) and Hickey (1997, 2001), one's formative development significantly impacts the manner in which one appropriately and successfully experiences psychosocial adjustment throughout the lifecourse. For simplicity sake, the essential features of the paraphilic's formative development are collapsed into two interdependent concepts: (a) predispositional factors; and (b) traumatic events.

Pre-Dispositional Factors

The motivational and trauma-control theories implicitly recognize that there are certain pre-dispositional factors that can either work alone or in combination to influence offender behaviour. Indeed, Burgess et al. (1986) addressed how dysfunc-

tional familial surroundings during childhood can adversely affect the early attachments youths cultivate with their primary care provider(s). Hickey (1997, 2001), too, identified this environmental breakdown as a sociological pre-dispositional factor, understood as a developmental failure. Burgess et al. (1986) contended that this disintegration had a direct bearing on the interpersonal failure of both the primary care provider as well as the maturing child. According to Hickey, the interpersonal problems that emerged represented psychological pre-dispositional factors.

As previously mentioned, Hickey (1997) also explained how certain biological factors could influence offender conduct (e.g., the extra Y chromosome syndrome) (Giannangelo, 1996; Raine, 1993). Interestingly, research indicates that certain biological factors influence paraphilic behaviour. For example, Money (1990) asserted that the cause of all paraphilias, particularly sexual sadism, was traceable to a "disease in the brain which affect[ed] the centers and the pathways that [were] responsible for sexual arousal, mating behaviour, and reproduction of the species" (p. 27). This perspective on the psychopathology of crime in general and sexual homicide in particular investigates the limbic system of the brain. This region is responsible for predatory conduct, as well as violence designed both to preserve and defend the self and to maintain the survival of the species (for applications in the psychological and criminological literature see, Arrigo & Griffin, 2004).

Moreover, Money (1990) observed that with the disease of sexual sadism, "the brain [was] pathologically activated to transmit messages of attack simultaneously with messages of sexual arousal and mating behaviour" (p. 28). What all of this suggests is that paraphilias are constituted by certain pre-dispositional factors (e.g., sociological, psychological, biological) that can, in some instances, produce erotically sadistic, aggressive, and even homicidal behaviour.

Traumatic Events

In addition to specific factors predisposing an individual to engage in certain erotically-charged deviant behaviours, the motivational and trauma-control conceptualizations address how particular disturbances (e.g., sexual, psychological, physical) and/or their combinatory effects, can adversely affect childhood and early adolescent development. An inability to confront constructively and to work meaningfully through the ensuing pain or torment of a harrowing event will likely foster feelings of self-doubt, hopelessness, and helplessness. Ultimately, this inability will interfere with the positive development of one's ego-identity.

Research on the paraphilia of lust murder indicates that the early years of psychological adjustment "are crucial to the personality structure and development of these offenders" (Douglas et al., 1995; Hazelwood & Douglas, 1980; Holmes & Holmes, 2002). Indeed, it is unusual for the lust murderer to come from a nurturing

family environment free from abuse, alcoholism, drugs, or other factors that could cause a great amount of childhood pain and suffering (Hickey, 2006; Money & Werlas, 1982; Simon, 1996). Thus, it follows, consistent with Burgess et al's (1986) and Hickey's (1997, 2001) assessment of trauma, that paraphilias originate, in part, from largely unresolved or inappropriately addressed debilitating life circumstances, occurring during the impressionable period of one's early adolescence.

Low Self-Esteem

The events occurring in the formative stage of the life course are critical for creating a solid basis on which a child can develop a positive self-image and learn prosocial behaviour. The largely dysfunctional background of the paraphilic mitigates this possibility (Abel et al., 1988; Douglas et al., 1995; Holmes, 1991; Holmes & Holmes, 2002). The motivational and trauma-control explanatory frameworks acknowledge the consequence of traumatic events in an adolescent's life. The child is likely to experience a deep-seated sense of personal failure and a genuine lack of regard for others and the society from which he feels rejected. Ultimately, this interferes with the child's ability to form positive attachments with other youths. Daydreaming and fantasy become a stand-in for the social relationships the maladjusted individual is incapable of forming.

In the Burgess et al. (1986) model, they explain how negative personality traits, in conjunction with a contrary and cynical attitude toward society, act as catalysts generating fantasies. These fantasies become patterned responses fueled by incessant pangs of inadequacy and self-doubt. The anger the individual feels as a result of previous trauma and rejection is expressed in the content of their image-making. According to Hickey (1997), the anger and hostility the person repeatedly engenders, in combination with the social isolation the individual routinely confronts, interact to form violent fantasies.

Early Fantasy Development

A cyclical conceptualization of paraphilias is unique to the integrated conceptual model in that the focus is on several factors occurring simultaneously, essentially producing a synergistic effect. Social isolation arising concurrently with the early development of sexualized fantasy, mobilize the paraphilic system into operation. Eventually, however, this mobilization becomes a process in and of itself. Fantasy, compulsive masturbation, and facilitators, along with paraphilic stimuli (e.g., fetishes, unusual objects, sadistic and erotic rituals) function to sustain the paraphilic process.

Burgess et al. (1986) specifically identified personality characteristics within the patterned response component of the motivational model. These are indicative of the paraphilic process described above. These characteristics include, among others,

social isolation, a preference for autoerotic activities, and fetishes. Indeed, as others have noted, "the internal behaviours most consistently reported over the murderer's" three developmental periods were daydreaming, compulsive masturbation, and isolation" (Ressler et al., 1988, p. 30).

Moreover, in the Burgess et al. (1986) sample, they examined killers who were sexually abused as children, versus those who were not similarly violated. Eighty-three percent of the sexually abused offenders engaged in fetishistic behaviours versus 57% of the non-abused offenders who did not. This finding strongly suggests that paraphilic stimuli (i.e., fetishes) are introduced at some point in the context of social isolation and fantasy.

It is difficult to ascertain the exact process by which an individual experiences paraphilic stimuli and engages in erotically sadistic behaviour; however, fetishes have been described as symbolic links to persons of importance in the life of a sexual killer (Hickey, 2001; Holmes, 1991; Simon, 1996). One theorist suggested that a fetish possesses some quality associated with a person the offender was closely involved with during childhood. This significant other is both loved and needed; however, the individual is also responsible for the adolescent's traumatization (Bancroft, 1985). The analysis implies that in the formative years of the offender's life, he makes a connection between the paraphilic stimulus and a traumatic event.

Paraphilic Development

As a component of the IPM, that paraphilic process illustrates how it becomes a system of escalating sadistic fantasies that result in increasingly violent behaviours. As previously stipulated, the paraphilic process is cyclical and consists of the following mutually interactive elements: (1) paraphilic fantasy and stimuli; (2) facilitators (e.g., alcohol, drugs, pornography); and (3) orgasmic conditioning process. Each of these elements is reviewed below.

Paraphilic Fantasy/Stimuli

In their research, MacCulloch et al. (1983) examined the sadistic fantasies of sexual offenders. They found that their subjects experienced difficulty in both social and sexual relationships at a young age. As previously described, a lack of social sexual bonding produces feelings of inadequacy. These profoundly troubling sentiments drive a person into a world of fantasy and isolation (Burgess et al., 1986; Hickey, 1997). Over time, the images become more violent and erotic, incorporating assorted fetishes, rituals, and/or unusual and sexually-charged objects as stimuli. The repetitive nature of the fantasy furnishes a sense of personal relief from the internal failures one experiences. The felt sexual arousal, in conjunction with the sadistic fantasy, reinforces one another by means of classical conditioning. The conditioning increases the likelihood

of escalation and habituation. The conditioning model of MacCulloch et al. (1983) explains not only the strength and permanence of sadistic fantasies in abnormal personalities, but their progression from non-sexual to sexual. This research lends support for the notion of a paraphilic process of ongoing sadistic and erotic behaviours.

Fantasy is very influential in facilitating the paraphilic process. Its sustained presence represents a safe, private, and powerful pursuit. Individuals become so ensconced in the images they create that they dwell in their image-making, losing all contact with reality. With a rich fantasy world free from any rejection, the sexual deviant has complete control over his own erotically imagined encounters. When examining the fantasy systems of lust murderers, it is apparent that they associate sex with aggression (Douglas et al., 1995; Hazelwood & Douglas, 1980; Holmes & Holmes, 2002; Liebert, 1985; Schlesinger, 2003). Common themes associated with their fantasies include power, domination, exploitation, revenge, molestation, and the degradation and humiliation of others (Simon, 1996).

Facilitators

The use of drugs, alcohol, and pornography are important components to the paraphilic process. Hickey's (1997) trauma-control model examined the use of these facilitating behaviours in relation to serial murderers. Ressler et al. (1988) studied a sample of sexual killers. They found that over half of their subjects reported interests in pornography, and 81% indicated "interests in fetishism, voyeurism, and masturbation" (p. 25). Other investigators have similarly commented on the role of facilitators in sustaining and contributing to the manifestations of sadistic sexual homicide (Hazelwood, Reboussin, & Warren, 1989; Hickey, 2006; Holmes, 1991; Prentky et al., 1989; Schlesinger, 2003; Simon, 1996).

Consistent with Hickey's (1997) analysis of serial killers, these facilitators manifest themselves as addictions for the sexual deviant. The paraphilic becomes firmly entrenched in a cycle of addiction, experiencing dependency, and craving more of the stimulus for sexual gratification. The reliance on the alcohol, drug, and/or pornography escalates, until the person becomes desensitized to the facilitator. In these instances, the paraphiliac may eventually act out his depraved and erotically-charged fantasies, engaging in brutal displays of sexual criminality including lust murder.

Orgasmic Conditioning Process

Compulsive genital stimulation enables the individual to experience a sexually satisfying result. The person fantasizes and rehearses the paraphilia, and then masturbates to the point of orgasm. This is a conditioning process in which the sexual deviant eventually loses all sense of normalcy, and depends on the paraphilic fantasy for both erotic arousal and satisfaction. Initially, a person might experience

"normal" paraphilias; however, as the nature and content of the fantasy becomes increasingly violent and sexual, the paraphilias progress in intensity and frequency.

Stressors as Triggers

Burgess et al. (1986) described the manner in which the offender is motivated to respond to circumstances based on how the person thinks. These actions are steeped in formative and unresolved traumatic experiences. As the adolescent matures, the precipitating events that constituted the youth's harrowing childhood, and the feelings associated with them, may function as "trigger mechanisms" (Hickey, 1997).

The integrative model proposes that triggering factors – whether internal or external (e.g., rejection, isolation, ridicule) – are stressors. They constrain or thwart one's capacity to cope adequately with everyday life. These stressors are akin to Hickey's (1997, 2001) trauma reinforcers, making it impossible for the person to deal effectively with routine conflict or strife. Depending on the nature and severity of the triggering mechanism, the person may experience a momentary loss of control. Indeed, the stressor activates childhood trauma, and rekindles the negative and vile feelings associated with them within the individual (Douglas et al., 1995; Ressler et al., 1988). This triggering effect cycles back into the paraphilic process of behaviour by way of a feedback loop. The behaviour is sustained by masturbation, facilitators, and fantasy. In extreme cases, the response to the stress may manifest itself in erotic and sadistic conduct, including erotophonophilia.

Behavioural Manifestations

The feedback loop has the potential to escalate into behavioural manifestations, if the person is compelled to execute his sexually sadistic fantasy. By enacting the paraphilic fantasy and stimuli, the individual attempts to satisfy, complete, and reify his illusions. The sexual deviant experiences an exhilarating rush of carnal satisfaction, as well as an increased need for stimulation each time the behaviour is inaugurated. The behaviour, whether criminal or not, functions as a reinforcer, and sequences back into the fantasy system.

Both the motivational and trauma-control frameworks depict this process. The former focuses on the offender's need to evaluate his actions toward others and toward one's self by way of a feedback filter (Burgess et al., 1986). In addition to examining the homicidal behavioural component of the motivational model, the latter specifies how the fantasy life of the individual escalates, sustaining existing images and generating new ones (Hickey, 1997).

Increasingly Violent Fantasies

As the fantasies become increasingly violent in nature, the paraphilic stimuli also progress in intensity, duration, and frequency. Each time an individual car-

ries out the erotic and sadistic fantasy and stimuli, the need for progressive stimulation becomes apparent. This need for continued violent arousal is a part of the paraphilic feedback loop and cycles in the process accordingly.

The trauma-control model specifically designates an increasingly violent fantasy component when explaining the behaviour of serial killers (Hickey, 1997). This theoretical component serves a similar function for the integrative paraphilic framework. Moreover, the motivational scheme supports the inclusion of increasingly aggressive imagery in the assailant's escalating sexual and criminal behaviour. Burgess et al. (1986) indicated that when the actions-toward-others factor occurs "in adolescence and adulthood, the murderer's [conduct] becomes more violent: assaultive behaviours, burglary, arson, abduction, rape, nonsexual murder, and finally sexual murder involving rape, torture, mutilation and necrophilia" (p. 266). Thus, the offender's behaviours grow more intense, crazed, and predatory as a direct result of an increasingly violent and complex fantasy system.

In addition, the feedback filter component explains how the sexual deviant reacts to and evaluates his actions toward others and himself. Feelings of dominance, power, control, and an increased state of arousal all cycle back into the offender's "patterned responses and enhance the details of the fantasy life" (Burgess et al., 1986, p. 267). Here, too, we see how violent imagery is sustained and intensified by the sexual killer. This is consistent with the integrative conceptual analysis regarding the paraphilic process.

Limits, Future Directions, and Conclusions

Although the proposed organizing schema on lust murder synthesizes several elements of the classical conditioning, motivational, and trauma-control models respectively, it is not without its own shortcomings. Generally speaking, these deficiencies are the basis for future theory testing. As such, scholars of sexual homicide and serial murder are encouraged to investigate these limitations in greater detail, as well as to assess the explanatory and predictive properties of the overall integrative framework. The following observations summarily delineate the more noteworthy limitations of the integrative paraphilic model.

First, the literature on serial, sexual, and sadistic murder is not clearly delineated. Often, theses offenses are classified as types of murder without a systematic assessment of their unique as well as similar properties. Although a focus on paraphilic murder specifies the inherent problem with this practice (especially on a conceptual level), the proposed IPM on lust murder does not provide any further categorization for these separate forms of homicide. In other words, the organizing tem-

plate does not specify how the paraphilic process is distinctively implicated in sadistic homicide, serial murder, or sexual killing. This is problematic, particularly when considering the fact that sadistic deviance, serial and predatory behaviour, and violent sexuality are all a part of the pathologically driven paraphiliac.

Having said this, the thesis examined in this section was whether a synthesis of the motivational and trauma control models (and, where appropriate, the classical conditioning typology), provided a more comprehensive theory for and better predictor of erotophonophilia. Future investigators would do well to conceptually examine the discrete personality and behavioural factors of the paraphilic process, especially in their ability to account for sadistic, serial, and sexual murder. Moreover, these respective formulations should then become the basis for ongoing theory testing. This recommendation is generally consistent with efforts to create an integrated theory of sexual offending (Beech & Ward, 2004; Ward & Beech, 2004, 2006).

Second, many of the constructs specified in the integrative paraphilic framework are not fully or discretely operationalized. Instead, a more global account of the paraphilic process as a system of increasingly aggressive and erotic fantasy (and behaviour) is enumerated. Additionally, this more nomothetic explanation, as principally developed from the Burgess et al. (1986) and Hickey (1997, 2001) frameworks, is only broadly linked to the crime of lust murder through the integrative exercise. Subsequent examinations on the topic of erotophonophilia would do well to provide greater and more precise definitional clarity on the etiological and interactive elements constituting the proposed synthetic framework. Efforts such as these are essential, particularly if the model is to represent a reliable and valid measure of the emergence, progression, and maintenance of lust homicide, as well as to function as a useful and dependable forecaster for those individuals likely to engage in such behaviours.

Third, the integrative paraphilic typology is based on limited studies exploring the phenomenon of sexual homicide and serial murder. Indeed, much of what we know about these offenses is anecdotal or otherwise stems from very small data sets. The absence of more robust and statistically animated investigations potentially leads to theory construction that materializes in something of a vacuum. This is problematic, especially if the goal is to develop a logical and sensible theoretical framework: one that possesses significant explanatory and predictive capabilities for the social and behavioural science communities.

This concern notwithstanding, the integrative framework clearly builds on the prevailing research. Moreover, although certainly limited, both the motivational model and the trauma-control formulation are routinely identified in the extant literature as the approaches that account for sexual homicide and sexual murder respectively (Douglas et al., 1995; Egger, 2002; Giannangelo, 1996; Holmes & Holmes,

2002; Schlesinger, 2003). As such, synthesizing the most salient aspects of these two very promising perspectives represents a strategic and useful model building enterprise, especially if the goal is to account for escalating deviant and sadistic sexuality in the commission of serial murder.

To summarize, the unique aspect of the IPM is that it specifically addresses the progression of aberrant sexual deviance such that a person can become *fixed* within this cycle of behaviour. This process is comprised of the paraphilic stimulus and fantasy; compulsive masturbation; and certain facilitators such as drugs, alcohol, and pornography. When an internal or external stressor occurs in the life of the paraphiliac, then those pressures are exacerbated by past feelings of rejection or anxiety stemming from a harrowing event experienced in the person's early childhood development. As suggested, the individual lacks the necessary skills to effectively resolve the tension that surfaces, and feels profoundly debilitated by the situation encountered. Given that the person perceives that no other outlets exist in which to address the anxiety producing circumstances, the troubled individual retreats into the paraphilic cycle of behaviour. Withdrawing into this pathological sequence creates a sense of relief, satisfaction, and control. The cognitive processes of the individual, in conjunction with the orgasmic conditioning of the fantasy and the paraphilic stimulus, sustain and perpetuate not only the aberrant sexual and sadistic behaviour but also the nature and content of the violent fantasy.

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Acknowledgement

The author thanks Catherine Purcell, Ph.D. and Academic Press for granting permission to use some material previously published in the following book: Purcell, C. E. & Arrigo, B. A. (2006). *The psychology of lust murder: Paraphilia, sexual killing, and serial homicide*.

Dr. Arrigo's Discussion

Carter: Sometimes I have seen cases where there is an absence of traumatic events in early childhood and early adolescence. Some sexual killers would appear to come from quite nurturing families and there is an absence of abuse, alcoholism and drugs. On examination, there are arguably still debilitating life circumstances that seem to interrupt the child's ability to form positive attachments with other youths, and thus make them slip into low self-esteem. I am thinking of cases where there is a very domineering and over-protective mother who seems to prevent the child from interacting and developing relationships, particularly outside of school. I would consider this to be trauma, and I was wondering what you thought of that and whether there are other categories of less obvious trauma that people using this model should be aware of and look for?

Arrigo: How do we operationalize the experience of trauma for individuals who are identified as sexual assailants? That is not a question that can be easily answered and it does indeed require treatment and various forms of intervention to ascertain what it is that leads one to engage in this kind of destructive behaviour. I've given you the worst case scenarios, but its not easy to unpack what those traumatizations are because it does require a willingness to engage in some psychodynamic intervention. It's not cognitive behavioural intervention that would make the difference here, at least not in my estimation. It would require some sort of more probing examination of the person, probing in the sense of looking at the person's history, early childhood, and events that transpired. While you and I might be able to argue that less severe traumatizations can be identified, it does not follow that just because they were less intense that they do not give rise to the behaviour that was manifested.

Proulx: In your model you emphasize low self-esteem, deviant sexual fantasies, and social isolation as key factors for sexual killers. How is your model relevant to organized versus disorganized offenders, and more specifically to the sadistic one, considering your model may be useful for both types of sexual murderer?

Arrigo: Purcell and I never addressed that particular question in the research that we've done, largely because we haven't quite figured out how we best classify our schema. I think it's closest to the sadistic type but we have not ourselves looked to determine how to compare this theoretical model with Burgess and colleagues' (1986)[1] model which is more inline with the non-violent versus violent type of as-

[1] Burgess, A. W., Hartman, C. R., Ressler, R. K., Douglas, J. E., & McCormack, A. (1986). Sexual homicide: A motivational model. *Journal of Interpersonal Violence, 13*, 251-272.

sailant. We didn't do that. There is room to think through where this theoretical model might relate to theirs. Part of the reason we didn't do it is because we were concerned with understanding more of the dynamics of fantasy and the way in which those fantasies got lived and how they gave rise to behaviour.

Proulx: Based on your model, we can see that the problems in sexual murderers are strongly present in early life, like social isolation. One of my patients at Pinel, a 7-year old boy, went into his aunt's bedroom with a knife and wanted to kill her. He felt no sexual arousal but was very excited about it, and he was 7-years old. Deviant sexual fantasies start very early in adolescence. With such a strong pattern, you talk about a loop of factors that interact with each other and reinforce each other. What is the possibility of treatment?

Arrigo: It depends on the structure of the illness. It depends on the extent to which predispositional factors, whether they are biological, psychological or sociological in nature, are so ingrained in the individual that even though one might have insight into those events or those experiences that trigger this process, the person may or may not be beyond return. I would be interested to learn more about the nature of the illness or the nature of the condition that my patient experiences. I would like to know more about the particular traumatic events and how the person interprets those events. If behaviour of this sort is unresolved, or unaddressed through adulthood, it's very difficult to attain success with intervention.

Bradford: If you look at the comorbidity studies on paraphilias, you're going to find people that have none of these features in their backgrounds and some of them go on to be sadistic serial killers. I'd question the consistency of it. The other issue is the co-morbidity and cross-over between the different paraphilias.

Arrigo: Many studies tend to be fairly anecdotal and they tend to have limited data sets, so our position has been to encourage researchers to see whether or not this particular theory does indeed have any predictive characteristics. What we're looking for would be the next wave of research that would require some theory testing and would require us to look at people who are identified as pedophiles, or persons who are identified as serial rapists and then at what manifestations of paraphilias they exhibit and to what extent are these problems chronic, severe or mild. Our theory may have some explanatory or predictive properties, or it may find its way into the intellectual dust heap of abstraction.

Harris: We have implicitly accepted that the development of fantasy and paraphilias escalate through time. Things probably start as a mild fetish, and move through,

voyeurism, frotterage, to a violent or coercive assault, to necrophilia. We believe there is a progression, yet I have to say that it is not consistent with some of the cases I have seen clinically. I was really quite sure in a couple of cases that this escalation process hadn't happened. How does your model account for the guys that appear to jump from pornography use to necrophilia?

Arrigo: The model outlines the spectrum. It doesn't look at particular instances where the offender's behaviour isn't chronic, or may be acute. One of the research questions then becomes much like you have just proposed. In the model, how do we account for an individual who's degree of sadistic fantasy, which gives rise to sadistic acting out behaviour, isn't as extensive or severe as, the person who engages in necrophilic sex? Our position would be, had they had the opportunity to continue on with their fantasy system, it would have escalated to the point that they had to act out on their fantasies.

Harris: I am actually talking about somebody who was at the relatively low level and then we got the sexual homicide and the necrophilia, and we didn't seem to have the intervening progression or escalation of the fantasy life. Those of you who have been heavily schooled in the ways of cognitive-behavioural analysis assume that there is a cognitive driver to most behaviours. There seems to be a disconnect where you get a relatively tame fantasy life and then you get this unexpected spike of behaviour which is necrophilia.

Arrigo: That's another area where I think research is warranted because it does beg the question to what extent does this particular model, or any of the models have explanatory capabilities to encompass instances like the one you just described? Our model does not address that.

Mossman: In the model that you present, you have distinctive pathological feature. This may not apply to everybody but maybe applies to a large number of people in which you are positively reinforcing an ultimately non-satisfying process. In some studies of people with paraphilias, medications that work for obsessive-compulsive disorder, the SSRIs, are effective in addressing their paraphilic behaviour while leaving their "normal sexual behaviour" relatively untouched and therefore more available to them. Do you feel that one potential virtue of your model is that it might elucidate, at least for a subset of individuals, that one has a process that is analogous to obsessive-compulsive behaviour. With OCD, people engage in behaviour over and over again that is unsatisfying or at least satisfying only briefly until the obsessions and the compulsions arise again.

Arrigo: It may very well be that the model offers its most explanation or has its most predictive property for a particular subset of assailants. Let's not forget that we are particularly interested in the lust murderer and those who engage in a cycle of abuse, a cycle of sadistic behaviour.

Mossman: Your model contains a description of a pathological process as opposed to just pathological things graphed on to what otherwise would be one way of describing personality development.

Arrigo: That is the process that we wanted to capture, in theoretical or model form. I think questions about individuals who have some characteristics of a fantasy system, which is no longer satisfying to them, so they act out on their unfulfilled sexual desires. I don't believe that our model can capture every individual.

Fernandez: Looking at the paraphilic process, I was wondering if the orgasmic part of it is a necessary or critical aspect or if there are other things that might reinforce and maintain that process. This might actually speak to Andrew Harris' question about guys who don't have that fantasy trajectory.

Arrigo: Our feeling is that the orgasmic conditioning process is very much a part of the overall paraphilic process. In other words, the fantasy element is in place. Thinking about the person who is on the extreme end of paraphilia, to the extent that the goal is sexual satisfaction that does not occur, our argument is that the person is in search of ways to experience sexual satisfaction.

Fernandez: I was thinking about fantasy and having a retreat or an escape component to it, which could be quite satisfying for some people, or perhaps women's sexuality where orgasm isn't always the major goal of it, that there are other satisfying parts.

Arrigo: So, your argument would be the desire to retreat and to escape itself is what helps sustain the cycle?

Fernandez: I'm just wondering if that is an option in the model.

Arrigo: It's not something we expressly identify in that way in the model. We talk about the retreat and the escape into fantasy life as a basis, as a way of coping with the world the adolescent or the adult finds to be entirely unforgiving and unaccept-

able. We talk about how that retreat or escape gives a sense of agency and power to the individual, but we don't go as far as I think you are proposing.

Fernandez: But not necessarily saying that retreat or escape in itself would be reinforcing enough to maintain this paraphilic process?

Arrigo: We have not sat down to work that particular element through that way. I think it's worth considering.

Connecting *Which* Dots?
Problems in Detecting Uncommon Events

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ABSTRACT

After a violent act has occurred, it is often easy to pick out what in retrospect were clear portents of violence. Recognizing those signs and taking appropriate action *in advance* is a far more daunting task. Mental health professionals and others among us who would hope to detect and intervene to prevent aggression must attempt to distinguish valid indications of future violence from the manifold similar occurrences that are not accompanied by violence. This paper explains what mental health professionals know about the capabilities and limits of their violence prediction methods. Research on the association between violence and mental illness suggests that several broad-based, clinical interventions that are directly beneficial to patients — and that are good in their own right — may also reduce patients' violence. However, attempting to stop violence (especially homicide) by doing a better job of "connecting the dots" will not succeed, because we cannot distinguish the huge number of false "warning signs" that we encounter from the few signs that really foretell bloodshed. We should abandon the false hope that we can predict, intervene, and stop individual tragedies, and instead institute broad measures that reduce known risks for rare but harmful events.

Connecting *Which* Dots? Problems in Detecting Uncommon Events

Understandable but Faulty Expectations

As some readers will recognize, this essay takes its title from what became the principle metaphor for describing the failure of United States intelligence agencies to prevent the attacks of September 11, 2001. In the words of Senator Richard Shelby, Vice Chairman of the U.S. Senate Select Committee on Intelligence, "The most fundamental problem ... [wa]s our Intelligence Community's inability to 'connect the dots' available to it before September 11, 2001 about terrorists' interest in attacking symbolic American targets" (Shelby, 2002, p. 33). The Central Intelligence Agency knew that Al Qaeda operatives had entered the United States; the Federal Bureau of Investigation (FBI) knew that Osama Bin Laden was sending personnel to U.S. aviation schools; the FBI had even taken Zacarias Moussaoui into custody because of his suspicious behaviour at a flight school. Yet before September 11, no one put these facts together and recognized the brewing plot to use airplanes as weapons against buildings. As author Malcolm Gladwell (2003) explains, "There was a pattern, as plain as day in retrospect, yet the vaunted American intelligence community simply could not see it" (p. 84).

Missed signs, unrecognized patterns, and lost opportunities for prevention have been recurrent themes when U.S. media have reported on lesser but still horrible tragedies. Reportage on school shootings, especially those at Columbine High School in April 1999 and at Virginia Polytechnic University in April 2007, provide particularly sad cases in point. CBSNews.com, for example, has articles on both shootings describing "warning signs" that were not heeded or adequately addressed. The Columbine killers had threatened classmates and alluded to their violent intentions on web pages, videotapes, and homework assignments months before their shooting rampages, yet school officials repeatedly missed opportunities to intervene (CBSNews.com, 2001; Sprengelmeyer & Ames, 2000). In the latter half of 2005 — months before his rampage at Virginia Tech — Seung-Hui Cho committed acts that other students and faculty members experienced as "extremely odd, frightening and/or threatening" (Office of the Inspector General, 2007, p. 5): he stalked female students, rarely spoke to classmates, and disturbed teachers through his behaviour and writing assignments (CBSNews.com, 2007). A web search using either "Columbine" or "Virginia Tech" and the phrase "warning signs" will turn up hundreds of pieces of evidence that were available in advance and that appear to foretell both massacres. If so many advance warnings pointed so clearly to these horrible events, why did persons in positions of responsibility fail to respond? How do we explain what seems at best, to be incompetence, and at worst, gross negligence on the part of officials responsible for public safety?

Cognitive psychology deserves great credit for work over the last four decades that allows us to give responses to these questions that are more productive than just assigning blame. Instead of just accusing those who failed to avert tragedies by missing obvious portents, says cognitive psychology, we should also wonder whether our ingrained thinking biases are at fault for leading us to perceive dreadful warning signs as really obvious in hindsight, and for leading us to think that the tragedies themselves were more foreseeable than they really were.

To appreciate this point, examine Figure 1, a map of the fictional community of Squaretown. Squaretown is comprised of square blocks laid out in a 32×32 grid. On average, a block experiences a violent crime once every ten years. Figure 1

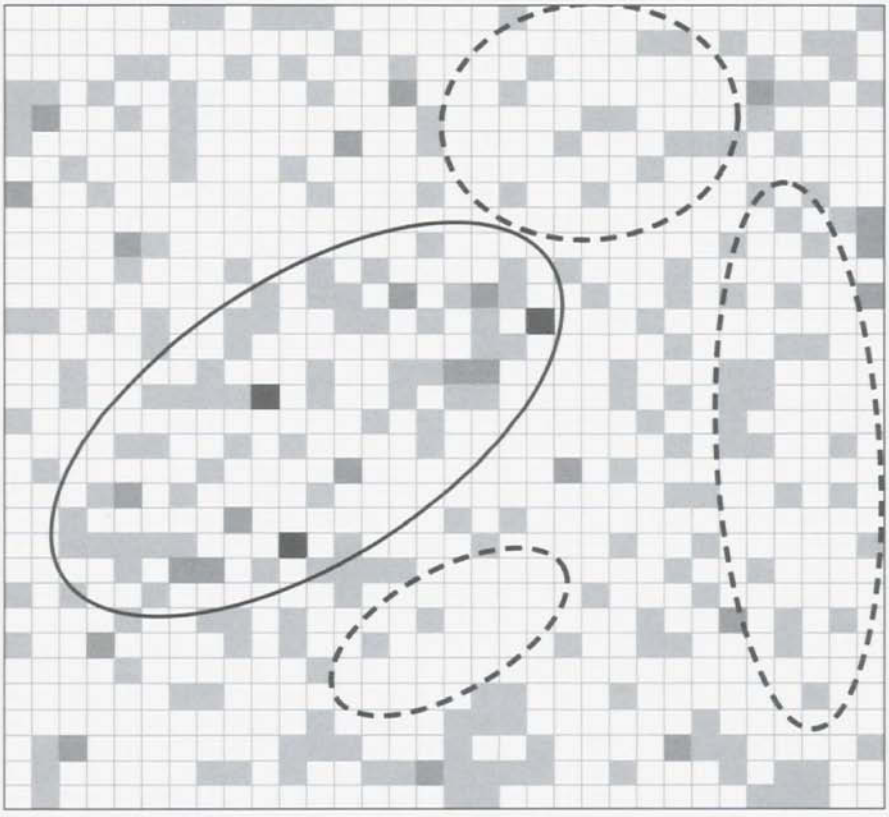


Figure 1. Distribution of violent crimes over the last three years in the fictional community of Squaretown. White squares imply no violent crimes; squares of increasing darkness implying one, two, or three violent crimes. Dashed ovals are areas of apparent low violence; the larger solid oval is a neighborhood of apparent high violence.

shows the distribution of violent crimes in Squaretown over the last three years. White squares imply no violent crimes during the period, and squares of increasing darkness imply one, two, or (in three cases) three violent crimes.

Wishing to know which neighborhoods are most violent, the sheriff of Squaretown has drawn dashed ovals around three areas on the map that appear to show "patterns" of low violence, and has drawn a larger solid oval around a neighborhood with a "pattern" of high violence. Commenting on the last oval, the sheriff has observed, "I always thought that area seemed like a rough part of town, and this proves it."

It turns out that the well-meaning sheriff has actually *harmed* law enforcement in Squaretown by perceiving patterns where the underlying reality does not support them. In fact, violent crime occurs completely randomly in Squaretown, and the apparent concentrations (lighter and darker areas in Figure 1) closely follow a Poisson frequency distribution for random, unusual events. What has happened is that the sheriff has fallen victim to a well documented phenomenon in cognitive psychology: "when viewing past outcomes, both naive and trained decision-makers tend to perceive patterns where none exist, thus creating illusory meaning" (Bukszar, 1999, p. 108). In hindsight, random events often seem to follow orderly patterns or appear clustered together (Hogarth, 1980; Kahneman & Tversky, 1972).

Moreover, the context of the sheriff's deliberations actually exacerbates his vulnerability to making spurious interpretations. Lurid crime scenes and emotionally charged encounters — things that the sheriff sees and hears when investigating violent crimes and pursuing criminals — are exactly the kind of vivid experiences that research suggests may make the "bad neighborhood" explanation seem plausible and valid (Tversky & Kahneman, 1982). Another problem for the sheriff comes from his occupying the unique position of a law enforcement officer. Violent crime is actually unusual in Squaretown, but the sheriff learns, sees, or hears about every incident, and has access to evocative, personal information about every criminal who gets arrested. Research suggests that this kind of information exacerbates the sheriff's potential to make judgment errors: our tendency to ignore base rates is exacerbated when we have to contend with vivid, emotionally salient information (Bar-Hillel, 1983; Cannon & Quinsey, 1995). Cognitive psychology thus helps us understand the sheriff's misinterpretation of the map and the reasons why he has erroneously concluded that violent events in Squaretown are both common and predictable.

Like the tragedies of Columbine, Virginia Tech, and September 11, the circumstances surrounding the death of a parole officer in the line of duty seem filled with dangerous portents. But even in a country as violent as the United States, such an incident would be rare. Mental health professionals and others among us who

would hope to detect and intervene to prevent aggression face a problem that signal detection theorists call distinguishing the "signal" — valid indications of future violence — from "noise" — the occurrences that we perceive that are not accompanied by violence, but that fill in our informational background.

After a violent act has occurred, it frequently is easy to pick out what in retrospect are clear portents of violence. Recognizing those signs and taking appropriate action *in advance* is a far more daunting task. Mental health professionals can now specify just how daunting that task is. In contrast to what was true a quarter-century ago, we now know a good deal about our ability to make violence predictions; we also understand our limitations much more clearly than we did in the early 1980s.

This chapter describes what mental health professionals know about the capacities and limits of violence prediction methods. The research findings summarized here show how well, and within what limits, mental health professionals can connect the dots in advance of a violent event. As this chapter explains, the problem with predicting and preventing tragic rare events is not one of failing to connect the available dots, but of having too many dots to choose from, and of making many false connections for every one connection that is valid.

Mental Illness and Violence: Connection and Clinical Expertise

Whether they work in ordinary treatment settings or in specialized forensic contexts, the day-to-day work of 21st-century mental health professionals often leaves them concerned about dangerousness. Recently, Hall and Ebert (2002) described 27 clinical situations in which mental health professionals must assess dangerousness in people they evaluate or treat. In North America, decisions to initiate emergency hospitalization and civil commitment proceedings are often based on clinical assessments that patients pose imminent risks of harm to others. The well-known *Tarasoff* responsibility to "protect" foreseeable victims of one's patients applies to most U.S. therapists' clinical practice, and it figures prominently in decision-making when patients depart from inpatient settings or when they voice violent thoughts in outpatient psychotherapy. In many U.S. jurisdictions, future dangerousness is an "aggravating factor" in capital sentencing decisions, and mental health professionals often provide evidence to establish whether this factor is present or absent (Cunningham & Reidy, 1998). Throughout North America, the future risk of reoffending — a matter often assessed by mental health professionals — is a crucial factor in courts' determinations about classifying, sentencing, or confining so-called "sexually violent persons" (Janus & Prentky, 2003). Mental health professionals assess patients' or evaluees' risk of violence in many other practice contexts: fitness-for-duty determinations concerning possibly violent employ-

ees, helping with hiring decisions, assisting parole boards, deciding whether to transfer convicted inmates to psychiatric facilities, recommending insanity acquittees for release from hospitals, and advising potential victims of stalkers (Hall & Ebert, 2002; Heilbrun, Philipson, Berman, & Warren, 1999).

Most physicians do *not* assess their patients' risk for intentionally doing violence. Why then, should assessing risk of violence lie within the special expertise of psychiatrists and their colleagues in other mental health disciplines? Why does society in general and the legal system in particular give mental health professionals this role?

One answer is that society has always done so. "Throughout history and in all known societies," writes John Monahan, "people have believed that mental disorder and violence were somehow related" (1992, p. 511). To support his point, Professor Monahan cites a broad range of evidence — classic Greek and Roman literature, a 15th-century German civil commitment case, Benjamin Franklin's strategy for getting Philadelphia to fund a mental ward, the British public's reaction to Daniel McNaughten's insanity acquittal, and anthropological studies from Laos, Australia, and the Western Hemisphere — attesting to the universal "assumption that mental disorder sometimes predisposes toward violent behaviour" (p. 513).

But in the 1970s and 1980s, available research seemed to suggest that mental health professionals could not predict violence, especially over periods of several months or years (Monahan, 1981). Also, psychiatrists and psychologists believed that after factoring out the main sociodemographic factors that are statistically associated with violence (e.g., being male, young, and/or poor), individuals who had psychiatric disorders did not commit violence at elevated rates (Walsh & Fahy, 2002). If such things were true, then despite society's age-old view that mental illness and dangerousness are connected, it made no sense to think mental health professionals should have any expertise about violence.

Establishing the Connection

Since 1990 evidence has accumulated to support mental health professionals' special involvement in assessing and preventing intentionally dangerous behaviour. Beginning with a re-examination of data originally used in the U.S. Epidemiologic Catchment Area study (Swanson, Holzer, Ganju, & Jono, 1990), several studies have now shown clear statistical associations between psychiatric disorders (especially substance misuse disorders) and violence, even when one controls for sociodemographic variables linked to violence (Coid et al., 2006; Monahan et al., 2001). Although researchers continue to debate whether specific symptoms are causally connected to aggression and exactly why psychiatric disorders are associated with violence (Appelbaum, Robbins, & Monahan, 2000; Wallace, Mullen, & Burgess, 2004), that the association exists is well established (Link, Andrews, &

Cullen, 1992; Mullen, 2006; Steadman et al., 1998; Swanson, Borum, Swartz, & Monahan, 1996). Also, the link between violence and mental illness seems stronger in nations where firearm possession is not as common as it is in the United States (Arseneault, Moffitt, Caspi, Taylor, & Silva, 2000; Brennan, Mednick, & Hodgins, 2000; Mullen, Burgess, Wallace, Palmer, & Ruschena, 2000; Tiihonen, Isohanni, Rasanen, Koiranen, & Moring, 1997).

Predictive Ability

Beginning in the mid-1980s, mental health professionals developed research suggesting they had some ability to gauge dangerousness over periods of a few days (Binder & McNiel, 1988; McNiel & Binder, 1987, 1991), which confirmed their intuition that they had *some* (though perhaps only modest) ability to judge which of their acutely ill patients were most prone to violent behaviour. But since the mid-1990s, mental health professionals have thoroughly revised their views about the predictability of both short- and long-term risk for violence. This change in viewpoint was initiated by re-evaluation of earlier research on violence that utilized more appropriate statistical methods for evaluating available evidence (Mossman 1994a, 1994b). Shortly after this, studies applied these statistical insights to newly gathered data and solidified this view (Douglas, Ogloff, Nicholls, & Grant, 1999; Gardner, Lidz, Mulvey, & Shaw, 1996; Rice & Harris, 1995). By the beginning of the 21st century, several studies had shown that psychiatrists and psychologists could evaluate violence risk and sort individuals into categories of greater or lesser dangerousness (Monahan, 2002). Coupled with the knowledge of a clear connection between violence and mental illness, this evidence provided some scientific support for having mental health professionals figure significantly in legal determinations influenced by levels of dangerousness.

Evidence showing that mental health professionals can validly rank individuals' risk of violence has continued to accumulate over the past decade (Hanson & Morton-Bourgon, 2007; Harris & Rice, in press). But what often goes unmentioned in the studies and summaries that describe this evidence are the limitations of our predictive abilities. The remainder of this paper will explain these limitations, which are straightforward consequences of the mathematical properties of predictive techniques and the contexts in which those techniques are used.

Terminology

An important step toward understanding these limitations involves understanding the terminology used to describe the accuracy of detection systems. Because mathematical analyses serve us best when they are kept precise, we also need

to establish precise understandings of words like "dangerousness" and "violence." This section sets out some brief but helpful specifications about violence, dangerousness, and ways to quantify the ability to detect aggressive acts before they occur.

Dangerousness

In common usage, "dangerousness" has varied meanings: the word can refer to aggressive behaviour (harmful acts, potentially harmful acts, and/or threats), to the property of having a larger-than-average probability of doing violence, or simply to having *any* chance of acting violently (Mossman, 2004; Shah, 1978). Following Mossman (1995), this paper uses "dangerousness" in the last sense, that is, to refer to anyone's probability of acting violently. Adopting this meaning allows one to think of all persons as having degrees or levels of dangerousness. Thus, one might indicate that people or groups have below average or above average probabilities of acting violently by saying they have "low" or "high" levels of dangerousness, respectively.

Base Rate

Used as defined in the previous paragraph, dangerousness becomes a probabilistic concept, rather than a present-or-absent attribute. *Everyone* has some level of dangerousness, because it is conceivable that any one of us might do something violent. Presumably, any given population has some characteristic or average rate of violent behaviour. Along with many mental health publications, this paper uses the term "base rate" (*BR*) to refer to the population average. One might express the base rate as an actual rate (e.g., "violent incidents are committed by 15 out of 100 persons per year") or as a probability (e.g., "15 percent"). Expressing the base rate in probability form is more convenient (and makes more sense) when one is considering an individual drawn from a group for whom one knows the base rate.

Risk Assessment

We can imagine that certain types of information might differentiate members of the population with a given base rate into subgroups with above- or below-average rates or probabilities of violent behaviour. In this context, "risk assessment" refers to the gathering, evaluation, and interpretation of information relevant to assessments of dangerousness.

Violence

What one considers "dangerous" or "violent" behaviour depends on the situation and the context. If one man tackled another on a city street, the action almost certainly would be deemed violent, but if the two men had the same encounter on a football field, it might not be (e.g., if the tackler were a defensive back and the tack-

led man had been trying to advance the ball). When considering research on the accuracy of risk assessment, one should try to understand how the investigators have specified what behaviors count as acts of violence. In many research studies (for example, studies of the Violence Risk Assessment Guide; Quinsey, Harris, Rice, & Cormier, 2006), what counts as violence is actually violent criminal recidivism, that is, incurring a conviction for certain types of criminal offenses. Of course, in any given population, actions leading to convictions for violent crimes represent only a fraction of the violent acts actually committed by members of the population.

Ascertainment

Closely related to the issue of defining violence for research purposes is the issue of ascertaining whether violence has occurred. As the previous paragraph notes, many publications on violence prediction use criminal recidivism as the criterion. In research contexts, this criterion has the advantage of being unambiguous, but the resulting base rates from such studies probably underestimate the true rates of violence in the populations under study. In contrast, researchers in the MacArthur Violence Risk Assessment Study (Monahan et al., 2001) combined information from three sources to ascertain whether violence occurred — interviews with patients, reports from collateral sources who knew the patients, and official records of arrests and hospitalization. The MacArthur study defined violence as including battery that caused physical injury, sexual assaults, assaults using weapons, or threats made with a weapon in hand.

"Clinical" and "Actuarial" Judgment

Although studies of risk assessment evaluate several prediction techniques, much of the recent literature contrasts two broad types: assessments made using "clinical judgment," and those made using "actuarial methods" (Dawes, Faust, & Meehl, 1989). Clinical judgment in risk assessment is similar to clinical judgment in the everyday practice of outpatient medicine. As anyone who has visited the doctor knows, office physicians typically make diagnoses and decisions using findings from interviewing and examining individual patients, the physician's knowledge of medicine, the physician's background and experience, available test results, and any other features of the situation that seem relevant.

By contrast, actuarial methods use pre-specified, explicit formulae or algorithms developed from empirically established relationships between risk factors and outcomes. Actuarial risk assessment instruments (ARAIs) (Hart, Michie, & Cooke, 2007) for dangerousness typically require mental health professionals to gather information about specific items concerning the subjects whom they evaluate. The clinicians then weight or classify this information using a predetermined scoring system

that yields a numerical value or category summarizing the subjects' risk of violence. This type of assessment is called "actuarial" because it resembles the methods that insurance actuaries use to judge the risk of some future event.

Sensitivity and Specificity

Studies of violence risk assessment have borrowed terms that physicians have used for years in clinical medicine to describe diagnostic accuracy. In medical contexts, researchers and physicians frequently use "sensitivity" and "specificity" to describe how well a diagnostic method detects disease (Kraemer, 1985; Somoza & Mossman, 1990). Sensitivity is the probability that a test will detect a condition when it is present, and specificity is the probability that a test will say a condition is absent when a person is free of the condition. In medical studies, test sensitivity is the proportion of actually affected persons who are "test positive" that is, the proportion of diseased persons whom a test identifies as having the disease. A medical test's specificity is the proportion of actually unaffected persons whom a test says are "negative" for the disease.

It is easy to use these terms in non-medical contexts where the goal is to sort individuals into two mutually exclusive categories. Thus, to speak about the sensitivity and specificity of a violence prediction method, one simply substitutes "violence" for "condition" or "disease" in the preceding definitions.

Suppose we let "*T*+" and "*T*–" stand for positive and negative test results, and "*C*+" and "*C*–" stand for a condition (which could be having a disease or being violent) being present or absent. Let the expression "$P(x|y)$" mean "the probability of x, given that y is true." Then we can use express sensitivity as $P(T+|C+)$, and specificity as $P(T-|C-)$.

Interpreting Test Results: Bayes' Theorem

Although sensitivity and specificity are standard terms for describing test accuracy, they can be confusing and even misleading. Tables 1A, 1B and 2A, 2B provide concrete examples to help us understand these terms and see how they work.

Table 1A is designed to focus on the meanings and calculation of sensitivity and specificity. We can think of the numbers in this table as having been obtained during efforts to design a test for condition "*C*". To evaluate the test the investigators have selected 100 persons who are "*C*+" (that is, they have condition *C*) and 100 persons who are "*C*–" (that is, they do not have condition *C*). Looking at the rows labeled "*C*+" and "*C*–". In the "*C*+" row, we see that 95 out of 100 persons who have "*C*" tested positive ("*T*+"). Looking at the "*C*–" row, we see that 95 out of 100 persons who did not have "*C*", tested negative ("*T*–") hence, 95 out of 100 persons

Table 1A. — Sample test results when sensitivity = $P(T+|C+) = 0.95$, specificity = $P(T-|C-) = 0.95$, and base rate (BR) = 0.50.

	$T+$	$T-$	row sums
$C+$	95	5	100
$C-$	5	95	100
column sums	100	100	200

$$P(C+|T+) = \frac{BR \cdot P(T+|C+)}{BR \cdot P(T+|C+) + (1 - BR) \cdot [1 - P(T-|C-)]} = \frac{(0.5)(0.95)}{(0.5)(0.95) + (1-0.5)(1-0.95)} = 0.95$$

do not have the condition. Thus, the test's sensitivity = $P(T+|C+) = {}^{95}/_{100} = 0.95$, and the test's specificity = $P(T-|C-) = {}^{95}/_{100} = 0.95$.

Some reflection suggests, however, that sensitivity and specificity tell us the *reverse* of what we *really* want to learn from a test. When physicians use a test to detect a medical condition, they are not interested in the probability that a patient with the condition will test positive. What physicians want to know is the probability that a patient with a positive test has the condition. Symbolically, we write this as $P(C+|T+)$, that is, the probability of having a condition, given a positive test result. But how should we interpret a positive test result and find out what we really want to know?

It turns out that we can do this using one of the many versions of Bayes' Theorem (Bayes, 1763):

$$P(C+|T+) = \frac{BR \cdot P(T+|C+)}{BR \cdot P(T+|C+) + (1 - BR) \cdot [1 - P(T-|C-)]}$$

This equation says that the probability of having condition "*C*", given a positive test result, is a function of the test's sensitivity and specificity and the base rate of the condition. Table 1A contains a worked-out numerical example for the subjects used to evaluate the test. Notice that the answer we get using the equation above is the same as the answer that we would obtain from looking at the column labeled "*T*+". There, we see that of the 100 persons with positive test results, 95 had condition "*C*".

Bayes' Theorem is valuable for many reasons, including its potential for helping us understand why it often looks, in hindsight, that people had predictive information available to them and just failed to "connect the dots." Recall that Table 1A describes the hypothetical results from the group used to evaluate the test, an artificial population in which half the persons were *specially selected* for testing only because they had condition "*C*". But suppose that in the general population, condi-

Table 1B. — Sample test results when sensitivity = $P(T+|C+) = 0.95$, specificity = $P(T-|C-) = 0.95$, and base rate (BR) = 0.001.

	$T+$	$T-$	row sums
$C+$	95	5	100
$C-$	4,995	94,905	99,900
column sums	5,090	94,910	100,000

$$P(C+|T+) = \frac{BR \cdot P(T+|C+)}{BR \cdot P(T+|C+) + (1 - BR) \cdot [1 - P(T-|C-)]} = \frac{(0.001)(0.95)}{(0.001)(0.95) + (1 - 0.001)(1 - 0.95)} = 0.019$$

tion "C" is very unusual — just 1 person out of 1,000 is affected by it, so that the BR = 0.001. If a randomly selected member of the general population has a positive test, what is the chance that he has "C"?

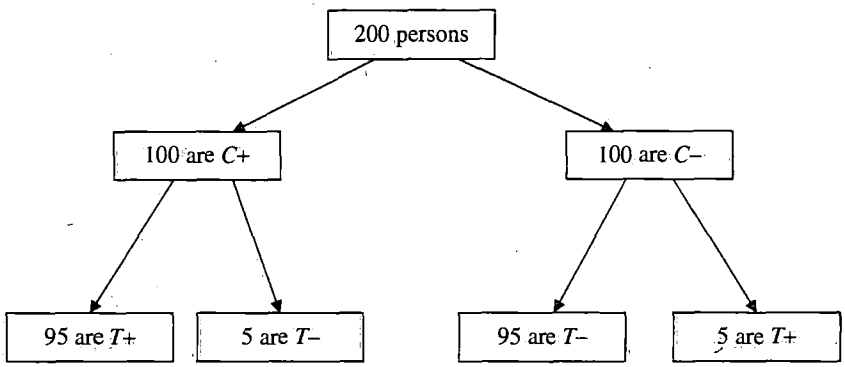
Table 1B shows two ways to come up with the answer. First, let's assume that a population of 100,000 persons undergoes testing. If the BR = 0.001, then we expect that just 100 persons (1 per 1,000 members of the population) have condition "C" and that 99,900 persons do not have "C". From the test's sensitivity, we know that 95% of the persons who are $C+$ will be $T+$ (test positive), and from the test's specificity, we know that 95% of the persons who are $C-$ will be $T-$ (test negative). This means that:

- 95 out of 100 $C+$ persons will be $T+$
- 94,905 out of 99,900 $C-$ persons will be $T-$
- 4,995 out of 99,900 $C-$ persons will be $T+$.

Thus, looking at the "$T+$" column in Table 1B, we see that 5,090 persons are $T+$, but just 95 of them, or about 1.9%, actually have condition C. At the bottom of Table 1B, the same conclusion is reached numerically using Bayes' Theorem.

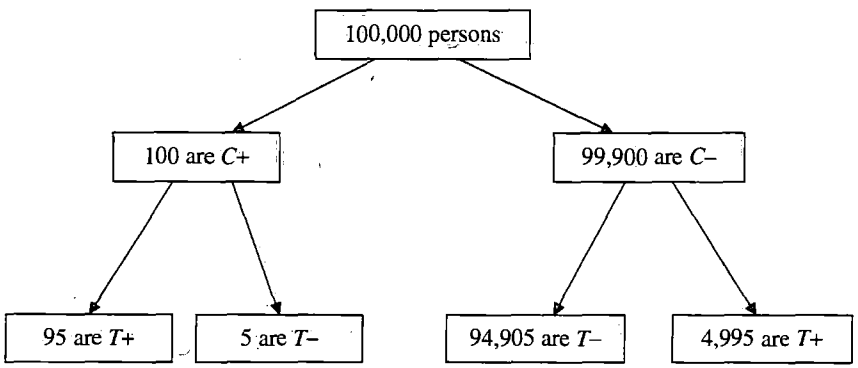
Tables 2A and 2B illustrate a more felicitous approach to the problem of base rates and test properties, one that uses natural frequencies — a format that most persons find more readily apprehensible than equations and conditional probabilities (Gigerenzer & Hoffrage, 1995; Hoffrage & Gigerenzer, 1998). Here, we assume a population of a convenient size (usually, some large round number), split the population into expected number of persons with and without condition C based on the BR, and then apply what we know about sensitivity and specificity to see out how many positive and negative test results we would expect to see in each subpopulation. Beyond facilitating comprehension, a virtue of Table 2B is that it makes obvious the connection between low base rates and the high ratio of false positives to true positives.

Table 2A. — Using frequencies to understand test results when sensitivity = $P(T+|C+) = 0.95$, specificity = $P(T-|C-) = 0.95$, and base rate (BR) = 0.50.



In clinical medicine, a test with sensitivity and specificity of 0.95 is regarded as very accurate. Yet we have just seen that among those individuals who test positive for a condition C that occurs in just 1 out of 1,000 persons in the population, we can expect to encounter more than 50 persons who do not have C for every person who has C. This example illustrates a general principle: when a condition is unusual, the vast majority of "positive" test results are "false positives," even though the test is very accurate. We now understand why, after we have learned that a patient has a serious condition that could have been caught much earlier, we sometime can blame the physicians for having overlooked an obvious early "warning sign" of the disease.

Table 2B. — Using frequencies to understand test results when sensitivity = $P(T+|C+) = 0.95$, specificity = $P(T-|C-) = 0.95$, and base rate (BR) = 0.001.



In retrospect, it seems as though such the physician just failed to "connect the dots." What such reasoning from hindsight ignores, of course, is that many individuals who showed the same warning sign did not have the disorder. Unless the physician was willing to evaluate dozens of unaffected patients (perhaps with costly, time-consuming, invasive testing) who showed the same warning sign, there was just no way to know that this particular patient really had the disease. The same reasoning applies outside medicine, of course, whenever a detection problem involves trying to catch an unusual phenomenon before it happens. Unless we can devote enormous, often costly resources to following up every potential advance indicator, it is inevitable that events that will one day look like clear portents of the phenomenon will be passed over because they seem much less significant before the phenomenon.

Receiver Operating Characteristic Analysis

A limitation of the sensitivity-specificity characterization of diagnostic tests is that it assumes that tests have just two outcomes, either *T*+ ("positive") or *T*– ("negative"). Yet for most diagnostic systems in medicine, the scores, ratings, or re-

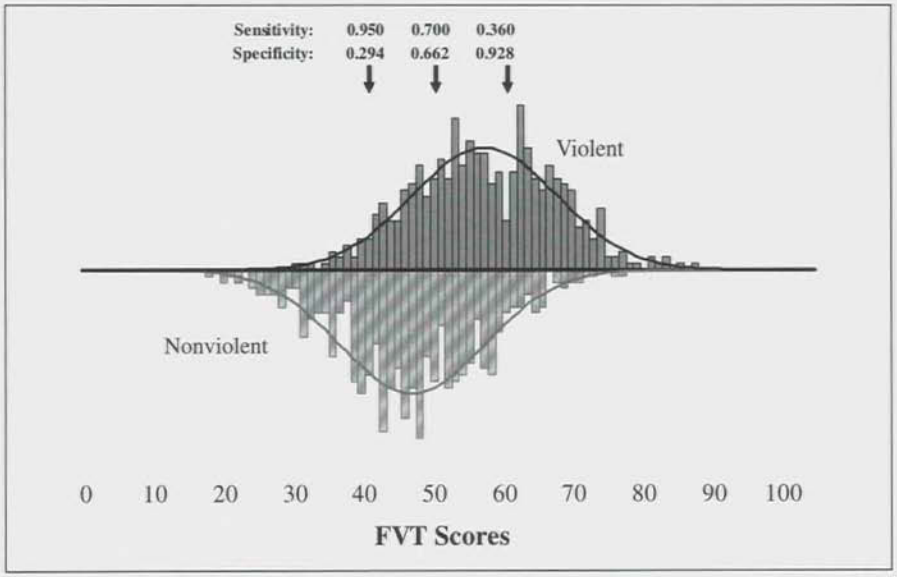


Figure 2. Results of a hypothetical Future Violence Test (FVT). Histograms show the FVT scores for the violent and nonviolent subgroups. Also shown are the sensitivity and specificity at three values (40, 50, & 60) of the FVT.

sults of persons with and without a disorder extend over a range of values and form overlapping distributions.

The same is true for most actuarial methods of predicting violence. Thus, any account of the accuracy of an actuarial method should accommodate this key property. The point is illustrated in Figure 2, which depicts the results of a hypothetical Future Violence Test (FVT) used to evaluate 1,000 individuals, 500 of whom were violent during a follow-up period. On the FVT, individuals may score between 0 and 100, and the test is designed so that higher scores are associated with increasing risk of violence. The histograms in Figure 2 show the distribution of FVT scores for the violent and nonviolent populations.

Looking at Figure 2, one sees that the violent subjects tended to score higher than the nonviolent ones, but the score distributions for the two subgroups overlap. Figure 2 shows the sensitivity and specificity of the FVT at three of the many possible cut-offs that one might select. Using a cut-off score of 50, for example, produces a test with roughly equal sensitivity and specificity, but if one wanted a test that favored sensitivity or specificity, one could use other cut-offs that would suit the purpose. All this implies that we cannot fully describe the accuracy of the FVT based on a single cut-off or decision threshold. Instead, the essential features of the FVT consist in the trade-offs between sensitivity and specificity that characterize the test's entire range of possible thresholds.

This was exactly the point that scholars in the area of violence prediction recognized in the mid-1990s (Gardner, Lidz, Mulvey, & Shaw, 1996; Mossman, 1994a, 1994b; Rice & Harris, 1995). Since then, researchers and investigators have increasingly used receiver operating characteristic (ROC) analysis to describe the accuracy of violence detection methods. This statistical procedure derives its name from its early use in studies of radar during World War II (Lusted, 1984), and suggests that detection properties depend on and can vary with the operating threshold used by the receiver. ROC methods let investigators describe the trade-offs between sensitivity and specificity that characterize a detection system as features that are distinct from the cut-off or operating point used to make a decision (Mossman & Somoza, 1991). Often, these trade-offs are depicted in a ROC graph that plots a detection system's true positive rate (TPR, equal to sensitivity) against the false positive rate (FPR, equal to 1 – specificity).

Figure 3 contains a ROC graph based on the results shown in Figure 2. FVT scores appear next to a few data points to assist readers in making connections between the data in Figure 2 and the ROC plot in Figure 3. Notice that a smooth curve has been "fitted" to the decision threshold data. This curve corresponds to the normal (or "bell-shaped") curves in Figure 2. Somoza and Mossman (1991) and Mossman (1994a) offer more detailed explanations of the mathematical assumptions used in fitting ROC curves to data points.

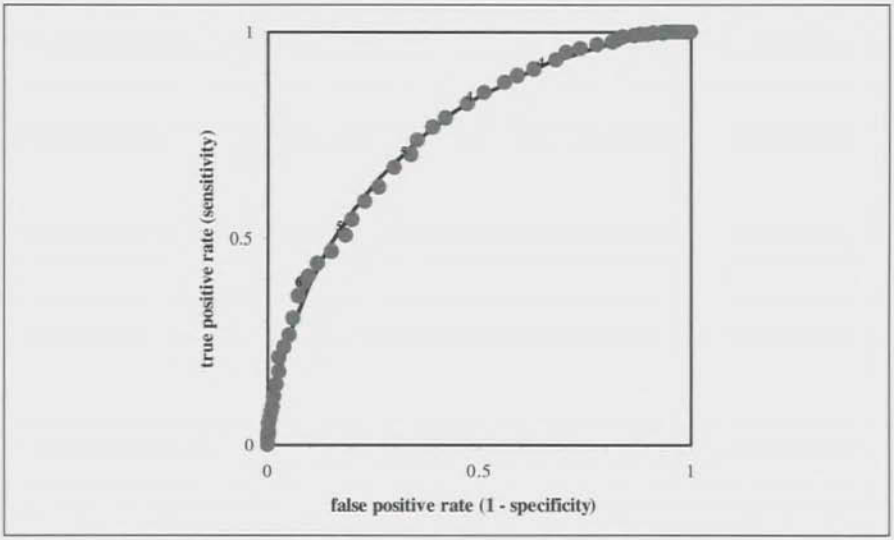


Figure 3. ROC graph based on the results shown in Figure 2, with FVT scores shown next to some possible decision thresholds. The smooth curve that is "fitted" to the decision thresholds curve corresponds to the normal curves in Figure 2.

ROC analysis permits several ways of describing and evaluating the accuracy of a violence detection method, but this chapter focuses on the two approaches that appear most often in mental health publications. First, the area under the ROC curve (AUC) provides a global summary of a detection system's overall accuracy. AUC also has an immediate, practical meaning (Hanley & McNiel, 1982) which, in the context of predicting violence, runs as follows: AUC is the probability that the prediction method would rate a randomly selected, actually violent person as more likely to be violent than a randomly selected, nonviolent person. Thus, if the FVT always rated violent and nonviolent persons correctly, it would have an AUC of 1.0; if the FVT gave no information (that is, was no better than a coin toss), it would have an AUC of 0.5. For our hypothetical FVT, the AUC is 0.76.

"Effect size" is another global measure of detection accuracy. Returning to Figure 2, one can see that the reason a randomly selected violent subject would usually get a higher FVT score than a randomly selected nonviolent subject is that the violent subjects' scores are displaced rightward compared to the scores of nonviolent subjects. In fact, the violent subjects' scores are shifted roughly one standard deviation to the right of the nonviolent subjects' scores, so that one could say that the size of the effect of assessing subjects with the FVT is roughly 1. One often sees the effect size statistic termed "Cohen's *d*," in acknowledgment of a commonly cited reference that de-

scribes this statistic (Cohen, 1969). One can convert Cohen's *d* into a third statistic, the common language effect size (McGraw & Wong, 1992), which is roughly equal to the AUC under most circumstances (Rice & Harris, 2005; Swets, 1986).

Scientific Findings

Over the last decade, use of ROC methods have led scholars and researchers to conclude that mental health professionals can meaningfully assess violence potential, whether the time period covered by the assessment involves days, weeks, months, or years of future behaviour (Buchanan & Leese, 2001; Monahan, 2002; Mossman 1994a, 2000; Rice, Harris, & Quinsey, 2002). ROC analytic methods have also led to a change in what investigators usually mean when they write about "predicting" violence in their publications. This change is analogous to what has happened to precipitation forecasts (Swets, Dawes, & Monahan, 2000). Though at any given place, precipitation either does or does not occur on a given day, weather forecasts no longer contain yes-or-no statements about precipitation ("it will rain tomorrow"), but probabilities of precipitation. Thus, weather forecasts now assign risk levels that help people make decisions (e.g., whether to go on a picnic).

Knowing risk levels may inform decisions in many areas of social policy, but whether this is true with regard to dangerous behaviour is far from clear (Swets et al., 2000). Many recent publications have examined the validity of dangerousness rankings (in many cases, rankings made using ARAIs), using ROC methods to quantify validity. While those studies have now shown that a variety of approaches can group individuals into categories with lower and higher levels of risk, the usefulness of these approaches may be limited (as later portions of this paper explain).

Also, many publications purporting to demonstrate a violence "prediction" method actually describe successful *postdiction* of violence. For example, the original data for one of the best studied risk assessment tools, the Violence Risk Appraisal Guide (VRAG) (Quinsey et al., 2006) did not come from risk assessments that were made before the violent behaviour took place. Instead, the instrument's creators obtained psychological data concerning mentally disordered male offenders that had been gathered at an Ontario psychiatric facility several years earlier (1965-80). The VRAG's designers then determined which types of psychological data were most strongly associated with violent recidivism (ranging from assault to murder) in the years following the offenders' release from the facility. This led to the development of a weighted 12-item scale that assigned higher scores to the violent evaluees and that would have had an AUC = 0.76 if it had been used as a prediction instrument for violent recidivism in this group (Rice & Harris, 1995). Though it seems plausi-

ble that the VRAG would have some predictive capacity in future groups of prisoners released during the 21st century, one should not assume that its prediction performance will necessarily be as good, especially if the released prisoners and their post-prison living situations differ greatly from the VRAG study population and their post-release circumstances.

Knowing this limitation might lead one to wonder whether human-judgment (that is, a non-algorithmic, "clinical" assessment) might do better that actuarial judgment at detecting and distinguishing persons likely to commit violence. After all, it would seem that clinical judgment ought to outperform algorithms or simple formulae because clinical judgment incorporates mental health professionals' training, experience, capacity to discern patterns, and appreciation of rich clinical detail. Although the evidence is not certain, it appears that clinical judgment probably is *worse* than judgments based on validated ARAIs.

In one of the first publications that used ROC methods to describe violence prediction, Mossman (1994a) examined previously published data concerning several types of violence prediction. Seventeen heterogeneous studies of clinical predictions had an average AUC = 0.67. (Later, Mossman (2000) revised this estimate to AUC = 0.69). Mossman (1994a) also commented on two types of predictions that implemented actuarial judgment — those based on past behaviour and those that used cross-validated discriminant functions — and found that these heterogeneous methods had average AUCs of 0.78 and 0.71, respectively. These findings suggest that actuarial judgment is superior to clinical judgment, though only one of the studies examined by Mossman (1994a) compares clinical and actuarial judgments directly in the same population.

Over the past decade, research on the accuracy of dangerousness assessments has focused on actuarial methods rather than clinical judgment. It is fairly common for investigators to report AUCs of 0.75 to 0.80 for actuarial methods applied to various populations and settings (Douglas et al., 1999; Rice & Harris, 1995), and the consensus among researchers and scholars is that empirically based, statistical prediction tools probably outperform the unaided clinical judgment of mental health professionals in assessing dangerousness (Janus & Prentky, 2003; Monahan, 2006). This consensus receives support from hundreds of studies involving a wide range of prediction tasks, in which actuarial techniques yielded predictions that were better (more accurate) than those produced by unaided clinicians. Despite what one might suppose, clinicians have trouble assigning consistent weights to decision variables, and the human brain has a limited ability to manipulate complex information (Bishop & Trout, 2002; Grove & Meehl, 1996; Grove, Zald, Lebow, Snitz, & Nelson, 2000). In most cases, predicting is more like calculating one's grocery bill (a straightforward but difficult arithmetic task) than deciding how well a portrait depicts

its subject (a complex pattern recognition task). Human beings are good at recognizing faces, but to calculate a grocery bill, having a computer scan items and total up the bill will certainly be more accurate than eyeballing one's shopping cart and estimating the total cost (Dawes et al., 1989).

Predictions that utilize ARAIs also have moral (and perhaps legally relevant) advantages over clinical judgment. When used properly, actuarial judgment is systematic, consistent, thorough, and impartial. Actuarial judgment also is transparent: it starts with fairly objective data and uses an explicit, pre-established method of combining those data, making its "results open to inspection, questioning, and when necessary, critique" (Mossman, 2004, p. 516).

Over the past decade, most research on the accuracy of dangerousness assessments has focused on actuarial methods rather than clinical judgment. It is fairly common for investigators to report AUCs of 0.70 to 0.80 for ARAIs used in various populations and settings (Douglas et al., 1999; Douglas, Guy, & Weir, 2006; Harris & Rice, in press; Rice & Harris, 1995), so we can think of the accuracy of the hypothetical FVT described here as having a typical level of performance. Investigators occasionally report AUC values above 0.80 under ideal circumstances, that is, when all data used by the risk assessment method are available and when the detection method aims at identifying only the most severe forms of violence (Harris & Rice, in press).

Detecting Events

The preceding discussion has described how well mental health professionals can "connect the dots" that point to future violence in advance — without the benefit of hindsight. Under the best circumstances, psychologists and psychiatrists can apply rankings to individuals such that 80 percent of the time, a randomly chosen violent person will rank higher than a randomly chosen nonviolent person. Though this sounds encouraging, it probably should not. We have already seen that when the condition to be diagnosed is unusual, even a very accurate medical test will generate mostly false-positive test results — that is, most of the people testing "positive" will turn out *not* to have the disease. Let us now consider a hypothetical violence detection method much more accurate than any method that currently exists (and more accurate than anything we should reasonably hope for), and let us examine the consequences of trying to prevent serious violence by attempting to detect, in advance, those persons who will act violently.

Suppose that mental health clinicians had a "Super FVT" that could separate violent and nonviolent individuals with an effect size $d = 2$, or a ROC area = 0.92. This prediction technique would be more accurate than a conventional chest radiograph, for

which AUCs of 0.90 have been reported for nodule detection (Loy & Irwig, 2004; Metz et al., 2005), or mammography, for which an AUC = 0.91 has been reported for cancer detection (Barlow et al., 2002). Suppose also that the rate of serious violence equals 3.6%, the same rate as the six-month incidence of "serious violence" — defined as at least one self-reported act of "assault resulting in injury or involving use of a lethal weapon, threat with a lethal weapon in hand, or sexual assault" — among subjects with schizophrenia who participated in the U.S. Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) (Swanson et al., 2006, p. 490).

Figure 4 depicts the expected performance of this Super FVT. To understand what the figure tells us, suppose we hope to prevent violence by a frequently recommended method: detention in a secure hospital or similar facility (Feeney, 2003; Fitch & Ortega, 2000; Walcott & Beck, 2000). We can then ask the practical question: how many persons need to be detained to prevent one violent act? The number needed to detain (NND) (Buchanan & Leese, 2001) is a statistic analogous to the "number needed to treat" statistic used to quantify the impact and consequences of interventions in clinical medicine (Cook & Sackett, 1995).

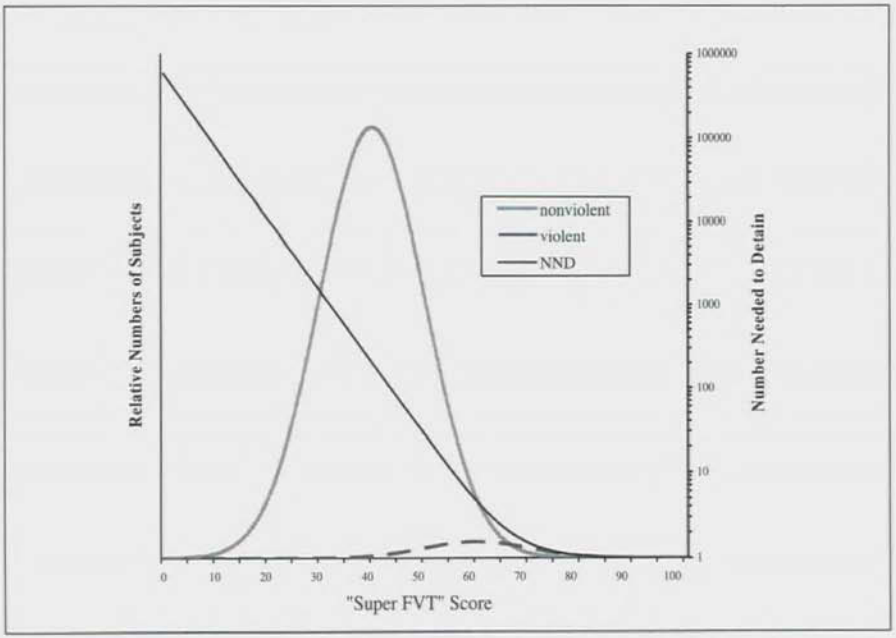


Figure 4. Left axis: expected distributions of Super FVT scores obtained by violent and nonviolent patients, assuming an incidence of 3.6%. Right axis: total number of subjects detained to prevent one violent action corresponding to each FVT score.

Figure 4 plots the idealized (i.e., smoothed) expected distributions of Super FVT scores obtained by violent and nonviolent patients, assuming an incidence of 3.6%. For convenience, the nonviolent patients' distribution is centered at 40 and the violent patients' distribution, at 60; the standard deviation remains 10, and the two distributions are 20 points (i.e., two standard deviations) apart. The areas under each distribution are proportional to the relative sizes of the nonviolent and violent populations. We can now ask: if we want to prevent violence committed by these patients, how many patients would we need to detain?

Obviously, to prevent every incident of violence outside the hospital, we would have to detain all patients. If we decide that less than perfection is acceptable, we can ask whether we might be able to cut down violence significantly by detaining those patients at highest risk. To cut the violence rate by 25%, we could detain only those patients with Super FVT scores at or above 67. The "cost" associated with detaining patients with scores of 67 and above, in terms of nonviolent patients needlessly detained, is one nonviolent patient for every 2.6 violent patients — perhaps an acceptable trade-off.

What if cutting the violence rate by 25% was not satisfactory? If we wanted to use preventive detention to cut the rate in half, we would have to detain all patients with scores of 60 or above. Our "cost" would now be about six nonviolent patients needlessly detained for every five violent patients. But more tellingly, among those patients with scores of 60-66, we would be detaining two nonviolent patients for every violent patient.

For each additional incremental cut in the violence rate, the cost rises steeply, as is indicated by the NND values for Super FVT scores below 60. To reduce violence by an additional 25% (that is, by a total of 75%), we would have to detain everyone with scores at or above 53. Now, about ten nonviolent patients would be needlessly detained for every three violent patients detained. Among the patients with scores of 53-59, we would be needlessly detaining 23 nonviolent patients for every three violent patients detained.

If the above calculations are not discouraging enough, keep in mind that they assume a very high risk of violence and an unreasonably optimistic view of detection accuracy. According to one recent estimate from Australia, the annual risk that a person with schizophrenia will be convicted for a violent act is 1 in 150, and the annual risk of a homicide conviction is roughly 1 in 10,000 (Wallace et al., 2004). Even with the detection capabilities of a Super FVT, preventing violence by attempting to identify violent actors in advance and detain them would require enormous numbers of needless, costly detentions.

A Better Approach: Providing Treatment

The problems with detecting and preventing uncommon events discussed here and elsewhere (Mossman, 2006; Mullen, 2006) have led several writers to abjure prediction as an intervention method, even though they endorse research concerning factors that increase violence and recognize the scientific importance of studies that elucidate causes and sources of violence. In seeing studies of violence prediction as primarily of research interest, mental health professionals are neither suggesting that those studies' findings should be ignored, nor are they taking a position that violence is not a mental health clinician's concern. Rather, what research about the association between violence and mental illness has shown is that several clinical interventions that are directly beneficial to patients — and that therefore are good in their own right — also stand a good chance of reducing violence by persons with mental disorders.

For example, several studies suggest that substance abuse and nonadherence to treatment are risk factors for violence by persons with mental illness (Elbogen, Van Dorn, Swanson, & Swartz, 2006; Melnick, Sacks, & Banks, 2006; Steadman et al., 1998; Swartz et al., 1998; Wallace et al., 2004). As Paul Mullen has pointed out, reducing substance abuse by persons with severe mental illness "is far from a panacea for [their] propensities to violence," but it is nonetheless "an important therapeutic goal, central to improving both symptom control and quality of life, ... [that] will almost certainly decrease antisocial behaviour" (2006, p. 241).

Demonstrating a direct connection between reduced violence and either improved psychiatric treatment or other psychosocial interventions is difficult. Studies have shown, however, that outpatient commitment and assiduous community follow-up may increase the chances that patients will continue their treatment after hospitalization (Hiday & Scheid-Cook, 1989; Swartz et al., 1999). McNiel and Binder (2007) have just reported on the effects of placing jail detainees under the supervision of a specialized mental health court. Compared with treatment as usual by the criminal justice system, the likelihood of new offenses was reduced by 39% in the 18 months after mental health court participants exited the program, and the likelihood of violent offenses was reduced by more than one-half. This finding suggests that violence committed by persons with severe psychiatric disorders may be significantly reduced through community programs that provide intensive monitoring and that emphasize getting treatment to promote mental stability.

Accumulating research also suggests that "second generation" antipsychotic drugs may reduce aggression in persons with schizophrenia (Swanson, Swartz, & Elbogen, 2004). The CATIE study's finding that youthfulness, childhood conduct problems, and history of arrest are strongly correlated with violence (Swanson et al.,

2006) is not surprising, but it emphasizes the importance of attention to these risk factors even in populations with severe psychiatric impairment. The CATIE study's additional finding that "positive" symptoms of psychosis (especially suspiciousness) increased the risk of violence, while "negative" symptoms lowered risk, lends specificity to our understanding of the interaction between severe mental disorders and aggression.

These and similar findings support the belief that studying violence committed by individuals with mental problems may "augment our understanding of the risk factors for violent behaviour" and "improve the ability of clinicians, courts, and criminal justice staff to make informed decisions about treatment" (Melnick et al., 2006, p. 142) for mental illnesses. They also reinforce the importance of providing persons with mental problems with the same kinds of interventions (e.g., prison-based treatment and intensive community supervision) that reduce antisocial behaviour and recidivism among offenders in general (English, 1998; Hanson et al., 2002; McGuire, 2003; Prentky & Burgess, 2000).

As Robert Simon points out, "[v]iolence prevention rather than violence prediction is the appropriate focus of clinical attention" (2006, p. 642), and calculation of risk (whether through clinical or actuarial judgment) plays little role in most current psychiatric management. Instead, clinicians attend to clinical facts — for example, threats, failure to take medication, signs of misusing drugs or alcohol, and having or preparing to use firearms. These factors subvert therapeutic goals and are also risk factors for violence. Clinicians also try to address these risk factors, which will reduce violence and help patients function better. Acting violently rarely is productive, but when clinicians help their patients through efforts that lessen the probability of violence, they are not making calculations about probability. Instead, they are trying to identify and alleviate symptoms and behaviour that impede recovery and that can be changed through clinical intervention. The result may be clinical action that reduces dangerousness, without any effort to identify high-risk patients or otherwise quantify the risk of violence.

An Omniscient Being may well know for certain whether a given individual will or will not act violently during a future time period. But from the standpoint of what human mental health professionals can know about the world, all persons must be regarded as having a finite, non-zero risk of acting violently. Therefore, every individual has some probability of becoming violent, though some people have more traits associated with violence — traits that raise the statistical risk of acting violently — than others. From a public health perspective, this situation is analogous to knowing that certain well-known circumstances and behaviours, such as housing, smoking, and food consumption, are clearly associated with health status. It makes better sense to adopt a "population strategy of prevention ... where risk is widely

diffused through the whole population" (Rose, 1992, p. 14), than to try to detect who will die prematurely. Population strategies aimed at broadly reducing risks usually "lack the glamour of high-technology medicine, but what they lack in excitement they gain in their potential impact on health, precisely because they deal with the major causes of common disease and disabilities" (Rose, 1992, p. 101).

The problem in stopping violence, and especially homicide, lies not with an inability to "connect the dots," but with there being a myriad of meaningless, irrelevant, innocent connections for every connection that points to tragedy. In advance of most horrific but rare events, we simply cannot sort through the huge number of "warning signs" that confront us to find the few that really foretell bloodshed. In such circumstances, it only makes sense to attempt broad measures that will reduce known risks for uncommon but harmful events, and to abandon the usually false hope that we can predict, intervene, and stop individual tragedies.

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Dr. Mossman's Discussion

Bradford: We live in a time when random control trials are the gold-standard to really prove anything. My question to you with regards to your thesis about treatment and the prevention of violence is: "Is it possible to do such a study, and if it isn't, what are the reasons? and are there ethical problems with such a study?" Secondly could you comment about the Baxstrom patients (1972)[1] and their release into the community whether they would illustrate similar issues?

Mossman: First, ethical issues and controlled trials. There have been some random control trials about out-patient civil commitment in the US in which researchers have divided people up and created comparable groups. One group would be subject to civil commitment as outpatients (which would involve monitoring in the community outside a hospital), and another group would not have this level of monitoring. I believe that it is ethically acceptable because it is not really clear that you are withholding or granting a benefit to one side versus the other. It is also possible to study outcomes from individuals handled in mental health courts, which would produce findings about the population you might be most interested in. After all, these are people who have run afoul of the criminal law. With those individuals, it may be harder to do that and what McNiel and Binder (2007)[2] had to do in their research was a fairly complicated statistical procedure in which they tried to control for ways in which the populations might not have been comparable. I think there are ethical barriers and there also may be legal barriers toward controlled trials under many circumstances, but there may be ways to handle these problems statistically. Concerning the second part of your question, about the Baxstrom patients, I'm going to just ask you to say a little more. What specific point about them did you have in mind?

Bradford: The Baxstrom patients (1972) were a group of patients held in a maximum security psychiatric facility. A large number of them—about a thousand—were released by a court order. All of them had been classified as being extremely violent and should not have been candidates for release. These patients were then followed for various periods of time and the number of individuals who actually re-offended was a very small percentage. The arguments that came out of this event were that you can't predict violence, the over-prediction of violence, and that these people who had been in hospital for various periods of time were not just sitting there, they re-

[1] Steadman, H. J., & Keveles, G. (1972). The community adjustment and criminal activity of the Baxstrom patients: 1966-1970. *American Journal of Psychiatry, 129*, 304-310.

[2] McNiel, D. E., & Binder, R. E. (2007). Effectiveness of a mental health court in reducing criminal recidivism and violence. *American Journal of Psychiatry, 164*, 1395-1403.

ceived treatment, they got older, a number of other dynamic factors occurred, which may have had an influence, so that it's really a comment on those issues that I am looking for.

Mossman: What may have been happening with the Baxstrom patients before their release—and this is reaction—is that the psychiatrists did not want to release someone who then goes out and harms or kills someone else, so in their recommendation, they erred on the side of caution. For the evaluating psychiatrist, there is no cost in making a decision where you keep someone in the hospital. Of course, somebody has to pay a cost, although back in the 1960s, when these events occurred, it wasn't very expensive to keep people in hospitals because they just warehoused them (at least that's what often happened in the United States). Only in the 1970s did it became expensive to keep people in the hospitals, and that's why a lot of psychiatric hospitals have now closed in the United States. I think that erring on the side of "no release, no harm to the public" is what occurred for the patients involved in the Baxtrom case. When I reanalyzed the Baxstrom data, it turned out that the people for whom release was not recommended had a higher rate of violence than the rate for persons whose release had been recommended. That is, everybody had been kept in the hospital by the court, but the people whom the clinicians thought could be released had a lower rate of violence than the people who the clinicians didn't want to release. So, if you use ROC analysis the clinicians were accurate. Remember, even with a very, very accurate test, but the vast majority of decisions are going to be decisions that keep non-violent people in the hospital.

Bradford: If I was in an emergency service and I set up a random control trial of people who walked in the door, and anybody who declared themselves to be homicidal would randomly either be admitted or released, with no other intervention I would suggest to you this would not be an ethical study. However, it might have some interesting results.

Harris: How do you screen for the rare yet catastrophic event?

Mossman: For example, screening blood for HIV or some other virus. The question here is, If you quantify the costs associated with wrongfully deeming as dangerous people who really aren't dangerous and the costs of the catastrophic event, it is possible to solve an equation that tells you where to make the judgment (i.e., the cut-off)? This basic issue applies whether persons are dangerous from a virus they're carrying or from any other factor.

There are times when screening works, and there are times when it doesn't. I don't know how accurate airport metal detectors are, but the cost of a wrongful conclusion that somebody has a weapon is low. At the airport, lots of false positives are fine, be-

cause all that happens if a person is falsely identified as having a weapon is that he gets wanded.

In the U.S., public hospital clinicians often are in the position of deciding whether we should recommend that somebody be released. With most of the people who are hospitalized as insanity acquitees, we know that their offences arose out of serious mental problems. We also believe that if we can alleviate those mental problems and put them in an environment where those mental problems won't occur again—by having them monitored in the community and making sure they're taking their medication—we believe that we will substantially reduce the risk of violence.
Everybody has a statistical risk of violence. Clinicians are not trying to say that the risk is zero. What we can aim for is to put an insanity acquittee's risk at the level that it would be if he didn't have a mental disorder. That strikes me as a reasonable thing for clinicians to aim for, and that's how we make the decision to recommend release.

There's an important difference between talking about somebody who has schizophrenia and committed an act of violence because of delusions, and talking about somebody who has a paraphilia and who committed an act of violence in furtherance of his paraphilic desires.

Clinicians are usually not trying to predict. What we try to do is alleviate the things that make the person more violent but that are treatable mental illnesses. That's how we think about it—there are no calculations involved.

Hart: I think it's the issue about the possible impossibility of prediction that is actually very important. That is, the likelihood that we may be unable to make accurate predictions of some rare events or to try to deal with the pay-offs in such a way to make them acceptable to us, or useful on a day-to-day basis. We know there are difficulties with prediction, but, as you pointed out, we don't need to predict. We deal with the possibility of earthquakes, and nobody has to predict when or exactly where or exactly how big the earthquake is going to be, but instead we can have all sorts of sensible strategies that we employ to minimize the chance of serious harm should an earthquake occur.

Mossman: Seatbelts provide another example.

Hart: That's exactly right. Now the difference is, the strategies that we would use in Vancouver to protect against damage in the event of an earthquake are quite different from those you would take in other places because we have to individualize the intervention to that particular city. For example, in Vancouver, we have to have salt water pumping because we have ground water that comes from the mountains and if there's an earthquake the water mains could break and we wouldn't be able to fight fires. So,

we built salt water pumping stations, which wouldn't be an issue in, say, Ottawa. And the fact that we have mostly wooden houses in British Columbia, which would also survive well in an earthquake, but they burn a lot. We could actually tailor our prevention strategies very logically to individual cases without having to rely on a probabilistic prediction model. Your points are so good because it's seatbelts, but it's not just seatbelts for everyone. We could also see what other steps we could take in individual cases that are based on common sense or good reasoning or other studies in the past.

Mossman: We have to ask whether the things that we suppose might work as preventative measures in individual cases really have scientific backing to justify taking those measures, especially when one plans to impose them very broadly. When we think about large populations, to what extent do we really know what kinds of interventions really make a difference? A proposed intervention may seem appropriately tailored for an individual, but if you want to develop broad-based policies, you also must look at interventions for large numbers of individuals. Prediction isn't very useful in many cases, because of limitations of our knowledge or the unamenability of the problem to that kind of effort.

Looman: On the issue of the rarity of the event, in the example you used with schizophrenia, you've got a 3.6% rate of violence in the population. But the population that I deal with, the rate of violence is much higher than that. About 35% of our guys reoffend with a violent offence, and about 12-15% with a sexual offence. So, when you've got that, how does that play into this discussion?

Mossman: Even if you believe it is ethically and legally acceptable to detain people for things that they haven't done yet, people still cannot agree on what level of risk ought to justify being detained. I think prediction studies are very important because of the information they give us and because we really would like to target treatment toward things that will help our patients not be violent. But most of the time, I don't think prediction is the way to make decisions about people and violence, for all the reasons that I've described.

Barsetti: What we try to do most of the time is not detain people on things that they will do next, but the opposite, which is trying to decide who's safe to release during a sentence. The guys who I'm afraid of are the guys who are on manslaughter or attempted murder, and received short sentences that began when they were in their early 20s and will be released in their 30s or 40s. Which ones should we keep for the maximum?

Mossman: I don't know the answer to that, and I don't know that anybody does. I think the way to address those problems is by treating people.

Hart: It's also very difficult for us to characterize the accuracy of our predictions when we're detaining people based on those predictions – we don't let murders go.

Actually, we don't let acutely homicidal people out of the emergency room which means that they don't have the chance to commit homicide which means that we underestimate the accuracy with which we predict homicide, according to simple follow-up studies. However, if we do intervention studies where we can actually start to have people randomly assigned to treated or untreated groups, then we may actually get a much better idea about the percentage of risk that's attributable to different kinds of risk factors or the reduction of rates of violence that we might see with treatment. Treatment actually allows us a way to scientifically validate risk factors and to quantify their importance independent of prediction.

Mossman: What that means, at least with typical psychiatric treatment, is that mental health professionals are probably having a fairly big impact on the rate of violence. But we don't see the impact, because we didn't let people just run around and do stuff.

Fernandez: I get from your presentation that you're saying it makes sense for us to treat these fellows. However, we don't agree very well on what constitutes treatment, like who should be doing it, how long it should be going on, what should evolve, who should get more, and who should get less. Is there any way to get a sense of that and who should be doing it?

Mossman: First, those are really different issues in the United States than they are in Canada because of how our health care is not funded and how yours is. I actually think that many forms of treatment done by various entities things really make sense and have a sound basis. Alcoholics Anonymous is a really good treatment program, and it's not run by mental health professionals. Getting firearms out of people's homes is something that everybody can do. I think there's plenty of work around and lots of needs for people to do it, especially in the United States.

Looman: Even in Canada, since we're here talking about sex offenders, once a sex offender's sentence ends, it's almost impossible for them to get treatment in the community because that sort of thing just isn't all that well-funded and it's not widely available. The idea of preventing or managing risk post-sentence for sex offenders is a separate issue. Community civil commitment would be a good solution to that problem because it forces them into treatment. In away, you're making an argument for something I know you're profoundly opposed to. How would you suggest that's managed?

Mossman: I'm going to speak to the mental health side of things, because there's a very different set of policy dimensions that affect sex offenders. If we had the kinds of specificity of treatments for sex offenders that we have for schizophrenia, we might be in a different situation from the one that we're in. Not withstanding what

SSRIs and hormone therapies can do, treatment for sex offenders just does not accomplish the same things as what drugs like lithium or anti-psychotic drugs can do for people with mental illness.

Having said that, I think civil commitment, community commitment, out-patient commitment often make very good sense for some persons with mental illness. If someone has a repeated pattern of failing to stay in treatment and coming in and out of the hospital many times because of beating up his mother at home, outpatient commitment is a perfectly reasonable intervention, and it's good for the people who are the subjects of commitment. I think it's perfectly justifiable on philosophical ground and legal grounds. Even if you believe that liberty is the most important value, civil commitment is a liberty-enhancing intervention.

Harris: All of the statistics you've discussed this evening are based upon normal distributions and normal actuarial procedures. Are there other statistical procedures for potentially predicting low-frequency or low-probability events that are non-normal or not based upon a normal curve or based upon some alternative distribution?

Mossman: Yes. If you look at articles that Marnie Rice and her colleagues have written, or at what the creators of the Historical, Clinical and Risk-20 (HCR-20, Hart, Douglas, &Webster, 2001)[3] have written, you'll see that they actually don't use the normal distribution to smooth the data. The key thing is, all studies looking at our ability to anticipate violence indicate that there's overlap in what we say about the non-violent people and what we say about the violent people. So the problems that I've talked about that are really the key problems. My argument abou the inevitable trade-offs and the inability to balance goods and evils from correct and incorrect decisions—those arguments are still solid, even if one didn't bother to use the advantages of parameterizing the distribution of results.

Harris: Are there any of those methods that you think have shown more promise than others?

Mossman: The issue is the trade-offs, because the distributions overlap. To take another example, if you look at Karl Hanson and his colleagues' data, in each one of

[3] Hart, S. D., Douglas, K. S., & Webster, C. D. (2001). Risk management using the HCR-20: A general overview focusing on historical factors. In K. S. Douglas, C. D. Webster, S. D. Hart, D. Eaves, & J. R. P. Ogloff (Eds.), *HCR-20 violence risk management companion guide* (pp. 13-25). Burnaby, British Columbia: Mental Health, Law, & Policy Institute, Simon Fraser University, and Department of Mental Health Law and Policy, Florida Mental Health Institute, University of South Florida.

the categories on the STATIC-99 (Hanson & Thornton, 1999)[4], 0 through 6, there are people who were recidivists and people who weren't. It turns out that you can draw a nice, smooth ROC curve for this data. With or without the binormal parameterization, you still have the same problem: there are recidivists and non-recidivists in every one of those categories, and that's the issue. It's just a limitation in our ability to separate people.

Hart: You can analyze the data anyway you want, and you can use any statistical procedure you want, it doesn't change the data. The data are the problem. We have a problem with having some rare and serious events and lots of people who aren't violent. It doesn't matter how you analyze it statistically, you can squeeze a few more zeros on a probability level or something like that. We've got a problem with the actual distribution of those outcomes.

Mossman: If you look at the histogram in Figure 2, you might say that in some cases, at the extremes of the data distributions, you can find groups in which everybody with a score of above "x" was violent. That at least tells us something. You can also say everybody with a score under "y" was not violent. But that's just an accident about how the tails of these distributions work. If you had a much larger population, though, somebody would pop up who had been violent yet had a score of less than "y". You would need a huge number of subjects in order to show that. The thing to notice is that most of the people aren't at those extremes. You're at most contending with just a few of the individuals about whom you're concerned. The problem is that the distributions overlap, and there isn't any substantial group that separates out clearly as totally non-violent.

[4] Hanson, R. K., & Thornton, D. (1999). Static-99: Improving actuarial risk assessments for sex offenders. User Report 99-02. Ottawa: Department of the Solicitor General of Canada.

Diagnosis, Assessment and Identification of Severe Paraphilic Disorders

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Diagnosis, Assessment and Identification of Severe Paraphilic Disorders

Paraphilias are relatively rare anomalies in sexual functioning where the individuals concerned engage in a variety of behaviours for sexual gratification that are incompatible with, or disruptive to consenting adult sexual behaviour. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, American Psychiatric Association, 2000) and the International Classification of Diseases (ICD-10, World Health Organization, 1992) diagnostic classification systems for mental disorders recognise and define a wide range of paraphilias. DSM-IV-TR provides definitions for eight main categories and ICD-10 does so for seven, each system also has a general category – in "Not otherwise specified" (DSM-IV-TR) and "Other disorders of sexual preference" (ICD-10).

In DSM-IV (American Psychiatric Association, 1994) paraphilias are defined in terms of : (a) at least a 6-month period of recurrent, intense, sexually arousing fantasies or sexual urges involving the specific paraphilic behaviour, and that the fantasies, sexual urges, or behaviours; (b) cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. In 2000, a variation (DSM-IV-TR) added that this diagnosis, in some cases could be made where the individual, even though not personally distressed or impaired in their functioning, had acted out the urge and, in some cases, carried out the behaviours with a non-consenting party. In ICD-10, paraphilas are described, much as in DSM-IV-TR, as being carried out to gain sexual excitement and gratification. In ICD-10, sadism and masochism are combined in one category whereas they form two categories in DSM-IV-TR.

Where there is a non-consenting victim of the behaviour, or a child victim of the behaviour, a number of paraphilias would constitute offences. These are: (1) sexual sadism (sexual excitement to the psychological or physical suffering of the victim); (2) pedophilia (sexual activity with a prepubescent child or children); (3) frotteurism (rubbing against and touching a non-consenting person); (4) voyeurism (the act of observing an unsuspecting person who is naked, in the process of disrobing, or engaging in sexual activity), and; (5) exhibitionism (exposing genitals to unsuspecting strangers). Others that would not necessarily constitute offences but may be linked to offences include: (1) fetishism (involving nonliving objects); (2) transvestic fetishism (involving cross-dressing) and; sexual masochism (involving the act of being humiliated, beaten, bound, or otherwise made to suffer).

There is a range of other paraphilias listed in DSM-IV, which also may or may not become linked with offending behaviour. These include: (1) scatologia, in-

volving making obscene phone calls; (2) necrophilia involving an erotic attraction or sexual interest in corpses; (3) partialism sexual interest exclusively focused on a particular body part; (4) zoophilia involving sexual activity with animals (i.e., both actual sexual contact and sexual fantasies, higher in psychiatric patients); (5) coprophilia, sexual activity involving feces; (6) klismaphilia, sexual activity involving enemas; (7) urophilia, sexual activity involving urine; (8) masturbation, sexual self-gratification; (9) autogynephilia, describes a man's propensity to be sexually aroused by thoughts or images of himself as a woman (with female attributes); (10) asphyxiophilia or hypoxyphilia, when a patient uses hypoxia to achieve sexual excitement; this can be complicated by autoerotic asphyxiation; (11) video voyeurism deriving sexual gratification from videos, usually of women doing natural acts or women involved in sexual activity; and (12) infantophilia, a new sub-category of pedophilia in which the victims are younger than 5 years.

Sexual Sadism and Necrophilia

In DSM-IV, sexual sadism is defined as recurrent, intense, sexually arousing fantasies, sexual urges or behaviours involving acts (real or simulated), in which the psychological or physical suffering of the victim is sexually exciting to the person, and that the fantasies, sexual urges, or behaviours cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. The DSM-IV-TR (2000) variation added that the person must have *acted* on these sexual urges with a *non-consenting* person. The presence of a non-consenting person brings the behaviour into the realm of sexual offending.

One of the major diagnostic difficulties in cases of sexual homicide is establishing the nature and function of injuries to the victim and establishing if the homicide was primarily sexually sadistically motivated. The later sections of this chapter on sexual homicide models and typologies will address this. It is perhaps relevant to note at this point that a comprehensive psychological assessment of sexual, or suspected sexual homicide should include access to all forensic information, including witness statements, police interviews (e.g., transcripts and tapes), forensic tests and pathology reports. Whilst the processes and procedures underpinning forensic (crime scene and pathology) reports will likely be beyond the competence of the psychological assessor, their conclusions can be cross-referenced with other material and hypotheses formulated and tested. In my experience, assessing sexual homicide cases in court and within institutions, assessments often highlight contradictory information. For example, (1) the police recorded timings of the perpetrator's actions on the night of the offence (suggesting a high level of focus and competence) and the offender's

account of his physical or mental state at the time (suggesting that he would not have been capable of this); (2) the perpetrator's account of a deceased victim having wished to be bound with soft scarves and the forensic evidence that she had, in fact, been bound with a variety of items such as phone lines torn from her room; and (3) the perpetrator's account of a wildly slashing attack on his victims, stemming from angry responses, compared to the precise nature of cuts on the victim's body, suggesting more carefully inflicted injuries and perhaps sadistic motivation.

Necrophilia is listed in DSM-IV under "Paraphilias not otherwise specified" and is defined as an erotic attraction or sexual interest in corpses. This paraphilia is rare and seldom reported to the police, with patients typically working in settings where they can access corpses, such as mortuaries and funeral parlours. Such behaviour can become an aspect of offending behaviour through, for example, breaking and entering mortuaries, criminal damage to the corpse, or homicide to obtain a corpse. It can also be dangerous to the perpetrator, where for example infections are acquired from the corpse. Necrophilia may also be linked to other paraphilias, such as fetishes, or offending behaviours, such as post-mortem interference or mutilation following a homicide.

Necrophilia is not often implicated in sexual homicides as a motivating factor but post-mortem activity can occur for a variety of reasons within sexual homicides, including: (1) realizing, post-mortem, that certain paraphilic acts can be carried out for sexual gratification purposes without resistance and without "making matters worse" since a killing has already occurred; (2) feelings of anger toward the victim for resisting and dying during the course of a violent sexual assault, resulting in anger being directed toward the corpse; and (3) post-mortem mutilation carried out in order to create a crime scene that may persuade police that they are looking for someone other than the perpetrator. In the writer's experience, offenders' accounts of having mutilated victims in order to mislead the police are often retracted during ongoing assessment and treatment work, as issues of shame and minimization are addressed, and replaced by acknowledgments that the mutilations actually flowed from angry or sexual feelings.

Early Detection and Prevention

Many paraphilias have been observed to be linked to sexual homicide (Stone, 2001), but equally most individuals with paraphilic disorders do not become sexual killers. The relationship between paraphilias and sexual homicide is likely to be similar to the relationship between the experience of having suffered sexual abuse and subsequently perpetrating sexual offending. Most people who have been abused do not go

on to offend, but for some the trauma of abuse becomes linked with other factors that combined contribute to the development of later offending.

Paraphilias stem from early developmental, environmental and social factors, as well as possible biological predispositions (Hucker, 1992). Early detection of paraphilic interests, in combination with other risk factors for sexual offending such as dysfunctional attachments, social isolation, low self-esteem, and conduct disorder, could assist with preventative measures. It has been argued in relation to criminality more generally that the most appropriate approach to prevention is to provide social, family and educational environments that are more well-informed (regarding crime risk factors) so that appropriately supportive, and structured experiences incompatible with crime can be provided for young people as they grow up. This would allow child guidance and family clinics to recognize these risk factors so that amelioration of these risks could be addressed along with other, more common presenting problems such as school refusal, temper tantrums, and strained family relationships.

The literature suggests that, for those who are on the way to developing paraphilias, distress caused by rejection or humiliation typically results in a retreat into the safety and excitement of the fantasy world (Arrigo & Purcell, 2001; Burgess, Hartman, Ressler, Douglas, & McCormack, 1986; Schlesinger, 2007), which can be exacerbated by facilitators such as pornography use (stimulating deviant fantasies) and substance misuse (facilitating disinhibition) (Hickey, 1997). Burgess et al. (1986) described the development of "patterned responses" (such as use of violent fantasy and a cynical view of other people) that are likely to maintain and escalate fantasies, leading to their eventual enactment under certain triggering conditions.

Hellman and Blackman (1966) first reported the concept of an "antisocial triad" of bedwetting to age 11, fascination with fire, and cruelty to animals as possible markers of later disturbance, and reference has been made to the presence of this triad in a numbers of studies of sexually motivated offenders including sexual killers. Stone (2001) and Schlesinger (2007) noted that cats were often the subject of animal cruelty in the histories of serial sexual killers, perhaps because cats are more available but not powerful enough to be able to fight back.

In summary, all paraphilias, although not in themselves necessarily offences, can be associated with offending. Primarily, through offences carried out in pursuit of the paraphilic experience, for example theft of desired clothing in the case of fetishism, breaking into mortuaries to have contact with dead bodies in the case of necrophilia and secondly, through incorporation of the paraphilia within a pattern of offending behaviour, for example rapes being committed by an offender only aroused to do so whilst dressed as a woman, in the case of transvestic fetishism interacting with a rape propensity. A number of writers have critiqued the paraphilia criteria for logic, consistency, clarity and whether they constitute distinct mental disorders but they are still widely used as a convenient summary within clinical and forensic assessments.

Sexual Homicide

Sexual homicide is a term that has been used with different definitions and sometimes interchangeably with other terms. A general distinction has been made between killings that are carried out specifically for sexual gratification purposes (lust murders) and killings that occur in the context of sexual acts or sexual offences where the motive for the killing is not sexual gratification. Grubin (1994) summarized a wide range of behaviours and motives that have been described under the term sexual homicide.

Malmquist (1996) summarized distinctions between "rape killings", i.e. homicide during/following a rape, "lust killing", i.e. where the homicide produces the sexual gratification, and "killings after sex" to destroy evidence. Schlesinger (2007), similarly, summarizes the three possibilities more broadly as a killing that is sexually arousing, a killing to cover up another crime, for example rape, and a killing with a sexual component, the exact motivational dynamic of which is unclear. Lust killing is not listed as a paraphilia, although it is typically associated with various paraphilias, notably sexual sadism, transvestism, exhibitionism and voyeurism, but rarely necrophilia (Gratzer & Bradford, 1995; Langevin, Ben-Aron, Wright, Marchese, & Handy, 1988). Meloy (2000) and Schlesinger (2007) have also noted high levels of gender dysphoria within sexual homicide samples.

Theories of Sexual Homicide

Theories of sexual homicide have included, and in some cases integrated biological, psychological, sociological and socio-political perspectives (Hucker, 1992). There is a good degree of overlap and similarity in the main theoretical positions. Burgess et al. (1986) produced a model of sexual homicide informed by data from their sample of 36 cases. They proposed a motivational model, comprising several stages:

1. An *ineffective early social environment*, in which the future perpetrator was subject to pathological bonding with parents and family, including neglect, detachment, or overly harsh discipline;
2. *Formative traumatic events*, such as physical, sexual or emotional abuse and interpersonal failure, seen as sowing the seeds for later personality development;
3. *Patterned responses* then emerged, including negative personality traits such as social isolation and disregard for others' feelings, and dysfunctional cognitive mapping. As a result, the individual learns to cope with the world by retreating into fantasies of power or revenge;
4. *Actions toward others* then follow, such as disregarding others' wishes, damaging property, cruelty to animals, and violence. As the individual reaches pu-

berty, aggressive fantasies become merged with sexual excitement and gratification;

5. A *feedback filter* was the final proposed stage, in which the individual views the world in the ways he has created for himself. For example, the offender will believe that people cannot be trusted, that it is good to be powerful, and he deserves to act out his sexually aggressive fantasies.

Hickey (1997) developed a "trauma control" model of sexual homicide, similar to, and consistent with the Burgess et al. (1986) model in most respects. Hickey highlighted a number of factors driving individuals toward serial sexual homicides:

1. *Predispositional factors* – biological, sociological and psychological;
2. *Traumatic events* in the formative years, such as abuse, exacerbated by social and environmental events, such as rejection;
3. The *development of low self-esteem* and compensatory fantasies and daydreams that substituted for social relationships;
4. *Dissociation* ("blocking out" or "splitting off" distressing thoughts and feelings) seen as a common mechanism that often came into play as the individuals struggled with distressing memories, thoughts and feelings;
5. *Trauma reinforcers*, such as rejection or criticism, described in the model as triggering mechanisms that reactivated childhood trauma, with the individual responding by retreating into his fantasy world, often including cynical ideas and sadistic imagery;
6. The continued development of *increasingly violent fantasies* often fuelled by "facilitators" such as alcohol, drugs and pornography, with escalation in the violence and acting out of parts of the fantasies; and finally
7. *Homicidal behaviour*, in which the individual typically experiences feelings of sexual gratification and control over his life. These feelings set the scene for further fantasies and future enactments.

These models are consistent with other studies into sexually sadistic offending and sexually motivated homicide. MacCulloch, Snowden, Wood and Mills (1983), in an often-cited study of 16 mentally disordered sadistic offenders, also identified key precipitating factors. These precipitating factors include early life problems, retreat into sexual fantasy and escalation into increasingly violence fantasy enactments through a series of so-called "behavioural try outs" in which the offenders escalated from, following victims to assaulting them, in order to heighten their excitement. In 14 of the 16 cases there was evidence that the offences for which they were finally convicted paralleled their fantasies.

Stone (2001) reviewed the literature on the history of serial sexual homicides from the mid-nineteenth century to the present. He suggests that although se-

rial sexual homicides are rare, there has been a ten fold increase since the 1960s and he makes suggestions as to why this might be so. Schlesinger (2007), however, points out methodological difficulties in assessing sexual homicide rates (including low incidence, no clear definitions, incomplete background data and lack of cooperation between different branches of research) and believes that the rate of sexual homicide has not increased. Reviewing the cases of 99 serial sexual killers, Stone (2001) noted that the most commonly reported mental disorders were personality disorders and paraphilias. He noted the presence of psychopathy in 91% of the cases and sexual sadism in 89%. DSM-IV antisocial personality disorder figured in 81% of cases, narcissistic personality disorder in 60%, schizoid personality disorder in 47%, and explosive or irritable disorders in 33% of cases. Stone points in particular to the extreme overrepresentation of schizoid disorder, found in about 1% of the general population but in 47% of the serial killers. He also highlights high levels of hypersexuality as reported by "Boston Strangler" Albert DeSalvo who demanded sex from his wife five or six times a day. He also notes the extensive frequency of paraphilias, 70% of cases exhibiting more than one and most having two or three.

Langevin (2003) summarized the psychosexual characteristics of "sex killers", noting: (1) early disturbance, behavioural problems at school; (2) early criminal careers (39.4% committed sexual killings before the age of 20); (3) elevated rates of cruelty to animals, fire setting and other antisocial behaviour; (4) early learning problems and neuropsychological difficulties; (5) extensive paraphilias, including sadism, voyeurism, fetishism, transvestism and gender identity disturbance; and (6) antisocial personality disorder and psychopathy although most subjects had PCL-R scores of less than 30.

Arrigo and Purcell (2001) built on the Burgess et al. (1986) and Hickey (1997) models, and other research, to produce an integrated model that sets out:

1. *Formative development*, comprising:
    a. predispositional factors – certain biological factors (e.g., in the limbic system) pathologically link pathways for violence and sexual arousal, dysfunctional family surroundings, disturbed attachments, and developmental failure;
    b. traumatic events – sexual, physical and psychological abuse, and their links to self doubt, hopelessness and helplessness;
2. *Low self esteem* – a deep-seated sense of personal failure and lack of concern for others who are felt to have rejected the subject, which sets the scene for retreat into compensatory fantasy;
3. *Early fantasy and paraphilic development* – social isolation plus early fantasies develop into paraphilic interests, reinforced by masturbation and various eroticized rituals and objects;

4. *Paraphilic process*
    a. paraphilic stimuli and fantasy – over time the fantasies become more extreme, incorporating various fetishes and rituals;
    b. orgasmic conditioning process – in which the individual reinforces fantasy through masturbation and orgasm and comes increasingly to rely on these for any sense of fulfillment;
    c. facilitators – use of drugs, alcohol and pornography enables the individual to sustain and escalate the violent fantasies;
5. *Stressors* – events that most people learn to manage – rejection, ridicule, isolation – become triggers to fantasy enactments;
6. *Behavioural manifestations* – as fantasies are acted out, they produce exhilaration and satisfaction, and this feeds back to the individual's view of the world;
7. *Increasingly violent fantasies* – are fuelled by the effect of fantasy enactments, heightened fantasies and loss of control.

Arrigo and Purcell (2001) set out a number of implications of their model, including possible markers for later offending (notably, presence of low self-esteem, deviant fantasies, and facilitators of enactments), key access points for intervention, and implications for treatment, noting "preventative treatment begins with skillful assessment and diagnostic work that competently screens for paraphilic indicators in particular cases. To date, no diagnostic instruments exist that accomplish this objective" (p. 27).

Catathymic and Compulsive Homicides

Schlesinger (2007) argues the importance of a phenomenological-descriptive approach to sexual homicide at this stage of knowledge. The evidence on differentiating catathymic and compulsive sexual homicides is summarized as follows: "Catathymic homicides are triggered by a breakthrough of underlying sexual conflicts" (providing the offender with some relief from these conflicts) whereas "Compulsive homicides result from a fusion of sex and aggression" (providing the offender with sexual gratification through killing) (p. 244). Both may be planned or unplanned.

Acute catathymic homicides are described as being triggered by overwhelming emotions experienced by the perpetrator linked to underlying conflicts that extend into the area of sexuality. Meloy (1992) had previously noted that these types of homicides involved attachment pathology and a history of physical and/or sexual trauma as in the Burgess et al. (1986) model and Dickey (1994) had also noted histories of multiple conflicts, abandonment, emotional abuse, and maternal sexual abuse, with the offences often occurring in an explosive dissociative state.

Chronic catathymic homicides are described as involving a depressed perpetrator who is obsessed with the future victim. The idea to kill is seen as fixed and

mixed with suicidal thoughts. Meloy (1988, 1992) noted that these offenders typically meet the criteria for borderline personality disorder, lack an integrated identity, have problems with reality testing, and may engage in stalking and use primitive defence mechanisms, sometimes tipping into overt psychosis. The offender typically seeks absolute control of the victim who represents the source of his distress.

In contrast, *compulsive homicides* were described as manifesting a fusion of sex and violence in which the act of killing has become eroticized even though there may be no signs of sexual assault at the crime scene. Planned compulsive homicides typically leave organized crime scenes and the offender may therefore be more difficult to detect and apprehend. Elements of longstanding fantasies related to sexual sadism and a compulsion to kill are generally present. Dietz, Hazelwood and Warren (1990) noted that such offenders typically carried out carefully planned offences in which strangers were targeted and manipulated (as opposed to someone known to the perpetrator in the case of catathymic offences), and they had used restraints, forced the victims to speak in a degrading way, enacted complex sadistic fantasies and had killed by manual strangulation.

Unplanned compulsive homicides were described as occurring in the context of opportunities to offend and generally involved undifferentiated or concrete sexual fantasies – typically just victim age and type (Hazelwood & Warren, 2000).

Schlesinger (2007) sets out a number of markers that assist the assessor to differentiate between acute catathymic and unplanned compulsive homicides, including the former having had no previous urge to act out in a sexually violent way. In unplanned compulsive homicides, for example, the victim was generally unknown to the perpetrator until just before the killing, the perpetrator had typically harboured sadistic fantasies (either complex or simple) and the first homicide typically involved someone known to the perpetrator.

Clinical Diagnosis and Assessment

Sadism

Marshall and Yates (2004) reviewed diagnostic issues in sexual sadism amongst sex offenders and noted the lack of consistency in criteria used in clinical practice. However, a number of phenomena were consistently reported including power, control, domination, humiliation, degradation, cruelty, torture, and excessive violence. They compared data on sex offenders with current psychiatric diagnoses of sexual sadism as opposed to other diagnoses in terms of information from offenders' files, including current and previous offences, life history, self-reported sexual and violent history and interests, and psychological assessments including penile plethys-

mography (PPG). They found, contrary to expectation, that those offenders diagnosed as sexual sadists were less likely to have beaten and tortured victims and showed less PPG arousal to scenes of a man non-sexually assaulting a woman than those not diagnosed as sexual sadists. This raises questions about distinctions in the precise nature of violence used in differently motivated offences, for example certain types of victim beatings and torturing could apply more to angry and instrumental violence than to sadistically motivated offences. This in turn relates to the precise nature of stimuli used in PPG assessments, for example sadists who are particularly aroused by knife related injuries may not respond sexually to depictions of strangulation, and vice versa.

Palmer (2006), in similar vein, derived a 25-item checklist of sadistic behaviours (CSB) from a study of 100 sex offenders in prison and 100 in high secure forensic mental health settings. As a starting point, Palmer used a combination of literature review and expert opinion. The checklist demonstrated acceptable reliability and validity and demonstrated a higher-order uni-dimensional construct of sadism with components of control, humiliation, physical cruelty, psychological cruelty, and torture. The 25 items comprised descriptors in relation to the following: a) victim injury, b) excessive force used, c) control/domination, d) amount of planning, e) select victim prior to offence, f) asphyxia, g) beat victim, h) take object to use in offence, i) behavioural/verbal scripting, j) imprisonment / captivity, k) bondage, l) blindfold, m) gag, n) behaviour to humiliate/degrade, o) variety of sexual acts, p) fellatio, q) anal rape, r) sequence of sexual acts, s) arousal to victim response, t) language to humiliate/degrade, u) foreign object insertion, v) sexual mutilation, w) implement used, x) bite mark, and y) cruelty/torture.

Personality, Intellectual and Mental State Assessment

Given that most sexual homicide perpetrators manifest one or more forms of mental disorder (personality disorder and/or mental illness, and paraphilias), assessment of mental state is a key part of formulation and assessment. Given the risk of relying on single sources of information, good practice dictates that a wide information base is used with corroboration and testing of information as assessments proceed (Schlesinger, 2007). Although not necessarily relevant to assessments of risk and need, the formal diagnostic systems of DSM-IV and/or ICD-10 are a useful way of organizing information in ways that help cross-reference this with other information in the individual case, as well as forming a basis for discussion with the offender.

To this material can be added: (1) formal psychological assessments of intellectual functioning – eg Wechsler Adult Intelligence Scale-III (WAIS-III, Wechsler, 1997); (2) cognitive strengths and weakness – Neuropsychological screening, and more specific tests of functioning such as Theory of Mind (Baron-Cohen, Wheel-

wright, Hill, Raste, & Plumb, 2000); (3) personality tests – eg NEO Personality Inventory-Revised (NEO-PI-R, Costa & McCrae, 1992), Eysenck Personality Scales-Revised (EPQ-R, Eysenck & Eysenck, 1991), Minnesota Multiphasic Personality Inventory (MMPI-2, Butcher, Dahlstrom, Graham, Tellegen, & Kaemmee, 1989), Millon Clinical Multiaxial Inventory-III (MCMI-III, Millon, 1994), Paulhus Deception Scales (PDS, Paulhus, 1998), Social Problem Solving Inventory-Revised (SPSI-R:S, D'Zurilla, Nezu, & Maydeu-Olivares, 2002); (4) measures of beliefs and attitudes such as Empathy for Women (Hanson, 1998), Empathy for children (Hanson & Scott, 1995); and (5) assessments of particular problems or propensities (anger, depression, impulsivity).

Sexual Interests and Arousal Patterns

Penile Plethysmography (PPG)

Penile plethysmography (PPG) involves the subject listening to or viewing material relevant to his offending behaviour (deviant stimuli) and comparison material depicting legal alternatives, whilst his penile responses are monitored. PPG assessments have previously been widely reported in the literature (Murphy & Barbaree, 1994; Marshall, 2006). Research indicates that PPG data are currently the most valid indication of an individual's potential to be sexually aroused by various types of stimuli and are moderately robust to attempts at faking (Kalmus & Beech, 2005).

PPG assessment is particularly useful where the individual being assessed may be inclined to deny, distort, or minimize his sexual preferences. The literature recognizes the necessary use of PPGs in risk assessment/management of sex offenders, as well as in treatment planning and evaluation. There are no alternatives to PPG assessment that are currently developed to the stage where they could replace PPGs. Although it could not be argued that a PPG assessment is the only means of assessing a subject's sexual propensities, it can be a significant contributor to this assessment.

PPGs will not always indicate deviant sexual interests because the subject: (a) may not have a deviant sexual interest; (b) may be able to fake the assessment; (c) may have a deviant interest that is unresponsive to the type, strength or modality of the stimuli presented; or (d) other emotions may overwhelm his sexual response such as anger or anxiety. However, subjects respond in various ways to PPG assessments including disclosures and/or emotional reactions that can inform assessment. Current criticisms of PPG assessment relate to its utility, methodological issues, and professional issues (Marshall, 2006).

Barbaree & Marshall (1988) found a positive relationship ($r = .38$) between PPG and 35 untreated child molesters. Quinsey, Rice and Harris (1995), whilst finding PPG results not directly predictive, reported that, with 12 other factors, contributed to more powerful prediction of recidivism. Hanson & Bussière (1998) in their meta-analysis of 61 studies involving 23,393 sex offenders obtained a Child molester PPG index ($r = .32$), which was the most powerful predictor of recidivism. The Rape PPG index ($r = .05$) was not predictive of recidivism. Firestone, Bradford, Greenberg and Nunes (2000) found that PPG data were predictive of offending only for extra-familial child molesters.

In a sample of 27 homicidal, 89 non-homicidal child molesters, and 47 non-offenders, Firestone et al. (2000) found that the homicidal and non-homicidal child molesters were significantly more aroused (52% & 46%) than non-offenders (28%) on their Paedophile index. Homicidal child molesters were significantly more aroused on their Paedophile assault index (63%) than non-homicidal child molesters (40%) or non-offenders (36%). Laws, Hanson, Osborn and Greenbaum (2000) compared 20 boy-object child molesters and 52 girl-object child molesters (voluntary outpatients) on audio and visual PPGs plus a card sort task of sexual interest. All three methods of assessment differentiated between the boy and girl-object child molesters but together provided 91.7% classification accuracy. This suggests the power of combining methods in assessments. Palmer (2006) analyzed PPG results for 55 subjects in a study of mentally disordered, and non-mentally disordered sex offenders and obtained a significant correlation ($r = .29$) between an index of PPG responses to adult sexual violence and a checklist of sadistic behaviours derived from file information.

Whilst never solely and totally identifying sexual deviance or predicting sexual recidivism, PPG assessment can be a useful part of a comprehensive, multimodal assessment of known or suspected sexually motivated violence. Within my current practice, PPGs are routinely carried out along with other assessments, to address issues of sexual interest and arousability for the following purposes: (1) assisting subjects to acknowledge and deal with deviant sexual arousal/paraphilias that relate to their offending, (2) contributing to the formulation of their offending and thereby to risk management and treatment provision, and (3) providing a basis for comparison over time in responsiveness to different kinds of stimuli related to offending and non-offending alternatives.

PPGs are best carried out in the spirit of a collaborative approach with offender-patients, who will vary in their receptiveness to this, as they will to other forms of assessment. Some are highly resistant to the assessment for various reasons, which can usefully be discussed and sometimes throws light onto their sexual attitudes, propensities and anxieties. Some are keen to engage in assessments as a means of exploring their own reactions and understanding their offending with a

view to bringing about personal change. Some are primarily motivated by a wish to prove they are no longer a risk and thereby improve their chances of being released/moved to lower security levels. Others cooperate with PPG assessments, as they do with other forms of assessments, simply because they wish to cooperate with what has been suggested for them by the clinical team and/or those responsible for their detention.

In the writer's experience of assessing cases of sexual homicide, common outcomes in PPG assessment include deviant responses being elicited where these had previously been denied or minimized, with the subjects' reactions falling into various types, as follows. Some subjects may readily incorporate these findings into their dialogue with professionals (Travin, Cullen, & Melella, 1988). These patients are usually seen to have made conscious denials of their sexual interest on the basis that their progress through the system will be swifter if their deviance remains undetected. Some subjects may strongly resist the findings, claiming that the test is faulty, or that the operator has rigged the results, or that the results are meaningless. This often occurs in patients who are in denial about other aspects of their behaviour. Some subjects may become highly distressed as their recognition increases that they are sexually reacting to deviant material. Sometimes this appears to be through shame and sometimes through an apparent dissociation between the subject's inner world and what he reports to others. These responses may be relevant to different personality disorders (narcissistic, schizoid, etc.) and to different types of sexual homicide (catathymic, compulsive).

Currently, professional guidelines – Association for the Treatment of Sexual Abusers (ATSA) and the British Psychological Society (BPS) – indicate that visual stimuli related to offences against adults (e.g., rape and non-sexual violence) should be of a type that someone might expect to see if they watched adult classification movies whereas auditory stimuli can be more extreme in their depictions without violating legal or ethical guidelines. For offences against adults (usually women), these stimuli are used to assess patients' relative sexual responsiveness to visual depictions of rape, violence, and consenting heterosexual activity. Similarly, for child sex offenders, visual stimuli depicting children may be required to assess differential sexual responsiveness to children and adults, but these stimuli should not involve real children.

Polygraphy

Polygraph assessment involves a sex offender/patient having his heart rate, blood pressure, respiration, and galvanic skin response monitored by a trained technician. He is asked a number of questions relevant to his clinical assessment and he has agreed in advance of his assessment to the content of these questions. These ques-

tions may relate to the disclosure of information about previous offending (number & type of victims, acts carried out), cooperation with aspects of a treatment plan (an agreed fantasy management procedure) or cooperation with relapse prevention plans (avoiding high risk situations & abstaining from high risk activities). The polygraph procedure is designed to facilitate openness, and the polygraph profile obtained enables the examiner to make an assessment of the patient's honesty.

Grubin, Marsden, Parsons, Sosnowski and Warberg (2004) note that the use of polygraphy to assist in the treatment and supervision of sex offenders has expanded markedly in the United States, although it is still employed in only a minority of treatment programs (Abrams & Simmons, 2000; English, Jones, Pasini-Hill, & Cooley-Towell, 2000a). Although critics have attacked the evidence base and scientific standing of polygraphy (Cross & Saxe, 2001), much of the argument has focused on the use of polygraphy in investigative settings such as crime detection and pre-employment screening, that is only partly relevant to post-conviction applications with sex offenders. In the former, issues of accuracy predominate, while in the latter, the polygraph is just one of a range of assessment tools that contribute to the development of the case formulation through disclosures, and to treatment and management plans.

Salter (1995) reports that post-conviction polygraph examinations enable clinicians to obtain more reliable sexual histories and more accurate offence behaviour descriptions, both of which assist in overcoming denial, and improve the assessment of treatment need and risk of reoffending. Studies have shown that polygraphed offenders have admitted to more victims, higher numbers of offences, to an earlier onset of offending, and to greater amounts of sexually deviant activity than is the case with non-polygraphed offenders (Ahlmeyer, Heil, McKee, & English, 2000; English, Jones, Patrick, Pasini-Hill, & Gonzalez, 2000b; Wilcox, 2000). However, without some means of corroborating what offenders say, the possibility exists that at least some of this increased reporting is fabricated in order to satisfy examiners.

In a survey of 28 sex offenders taking part in a community program, Harrison and Kirkpatrick (2000) found that the majority described a decrease in high-risk behaviours (e.g., grooming potential victims, obtaining pornography, and substance use), that offenders attributed to polygraph testing. However, the small numbers, possible sample bias, and the self-report nature of the study mean that caution is required in interpreting these results. Abrams and Ogard (1986) compared recidivism rates of a mixed group of offenders, including some sex offenders, who were required to take periodic polygraph tests by the Courts in Oregon, with those whose supervision did not involve polygraphy in another county. They found that, over a 2-year period, 69% of men who received periodic polygraph examinations remained offence or infringement free, compared to 26% of those who were not polygraphed.

Neurophysiological

A few studies have been carried out on neurophysiological electro-encephalography (EEG) (Howard, Longmore, Mason, & Martin, 1994) but these are not at a sufficiently advanced stage to assist with identification and quantification of sexual deviance. However, this methodology can be used in conjunction with other approaches such as PPG to assess specific hypotheses. When assessing certain types of sexual homicide cases PPG and EEG assessments were carried out simultaneously to assess if a link existed between sexual arousal to different types of material and the possibility of diminished responsibility due to epilepsy-related "absent seizure" syndromes.

Information Processing Methods

Kalmus (2003) reports on a methodology in which subjects' information processing responses are measured, below the subjects' threshold of awareness, when presented with material related to their sexual interests. This study produced a high level of discrimination and, although Kalmus and Beech (2005) note that the methodology may be susceptible to faking, it seems to be a promising development as it is both quick (allowing many trials during an assessment) and would seem to have the potential to be developed in ways that would make it more robust against faking. Viewing times for sexual materials (Abel, Huffman, Warberg, & Holland, 1998; Krueger, Bradford, & Glancy, 1998) are reported to produce good discrimination between different offence types but again these are susceptible to faking (Kalmus & Beech, 2005).

Clinical and Forensic Assessment

Schlesinger (2004) sets out recommended features of a comprehensive forensic examination in cases of sexual homicide. Highlighting the importance of corroborative information and the likelihood of misreporting, deception, and minimization, he advocates utilisation of the following:

(1) Structured clinical diagnosis, as guided by DSM-IV
(2) Tests of general intelligence, memory and neuropsychological functioning
(3) Personality inventories such as the Millon Clinical Multiaxial Inventory (MCMI-III) and Minnesota Multiphasic Personality Inventory (MMPI-2)
(4) Tests for specific disorders such as depression and psychopathy
(5) Neurodiagnostic and biological testing – EEG, CT scan, PET scan, MRI assessments as appropriate, tests for chromosomal abnormality
(6) Narcoanalysis is suggested as a possible means to reduce inhibitions and defences (See Melton, Petrila, Poythress and Slobogin's (1997) guidelines on reducing deception during assessment)

(7) Projective assessments in which the subject expresses aspects of his inner world through methods that allow him to project some of this onto ambiguous or unformed materials in ways that aim to avoid defensiveness (Specifically mentioned by Schlesinger are: (a) the Rorschach assessment, which he suggests is rarely challenged in court proceedings and is "invaluable in understanding the psychopathology of criminal offenders"; (b) the Thematic Aperception Test (TAT) which involves the creation of fantasy stories "critical in helping understand the sexual murderer as his acts are a direct outgrowth of fantasy"; and (c) The "Criminal Fantasy Technique" (CFT), comprising 12 cards, each showing a crime that is about to be committed, is occurring, or has just happened, and about which the subject tells a story)

(8) Hypnosis, noted as only applicable in specific instances for detection (rather than offender formulation) purposes

(9) Polygraphy is also noted as having some potential, although Schlesinger notes some concerns about its efficacy.

It should be noted that Schlesinger's use of projective tests is described in terms of constructing and testing hypotheses using a wide range of data and subject responses rather than using them in a unitarily predictive way as, for example, would be the case with normed intellectual assessments. Archer, Buffingtobn-Vollum, Stredny and Handel (2006) note in this context that one of the criteria by which legal admissibility of expert testimony is determined includes "general acceptance" of the methods in question. This would include testability of the methods underpinning theory, whether it has been subject to peer review and publication, and an established error rate. In their survey of forensic psychologists, Archer et al. noted that the Rorschach, followed by the Sentence Completion and TAT procedures, was the most frequently used unstructured personality assessment in their sample of 152 respondents.

Suggested Assessment Protocol

Drawing together information from the research literature and clinical-forensic practice, a number of recommendations are made about approaches to assessment in cases of possible sexual sadism, and sexually motivated/paraphilia-driven homicides. Comprehensive assessment is vital, and should include the use of collateral information, different modalities of assessment and the testing of hypotheses during an assessment. This would include file review, behavioural observation, psychometrics, a client interview, psychophysiological assessment and subsequently monitoring of changes over time.

As Marshall & Yates (2004) point out, at the heart of the assessment is the internal world of the offender. And this is not always accessible or accurately reportable. It is clear that homicides linked to sexual sadism and other paraphilias involve the interplay between a number of factors, including potentially unresolved issues from the offender's past, current personality functioning, current mental health issues, and current sexual interests, preoccupations and paraphilias, to name the most significant. The way in which an assessment proceeds will reflect this interplay of factors within the current assessment environment, whether this be in pre-trial versus post trial, institutional versus community, male versus female assessor, older versus younger assessor.

Interactive Process of Assessment

In the context of examining sex offenders, Perkins (1991) set out a suggested process for working simultaneously with a number of interacting frames of reference. This is re-summarized here in terms of three frames of reference for working with cases of sexual homicide.

First, is the *context and contingencies* that apply in the situation where the assessment is being carried out. The contingencies that apply to assessor and offender/patient (subject) in addressing the questions posed by the assessment can be made clear and discussed as the assessment proceeds. This will include the range of outcomes that might follow disclosure of information of different types. For example, the subject may be inclined to withhold information about deviant sexual interests, such as sadism or pedophilia, because he feels that to reveal this information may be damaging to his aims.

This issue (how much he will reveal) can be explored through a dialogue with the subject as to precisely what would be the consequences of revealing certain types of information, and it may well be possible to allay his fears and encourage disclosure through a realistic appraisal of the options he faces. The subject may fear that: (1) at the time of trial, such revelations will result in a longer sentence or unwanted disposition (e.g., to a psychiatric hospital), (2) once incarcerated, it may hamper discharge or transfer because the authorities will regard a sadistic offence as more serious, and (3) that others will regard him with disgust or hostility if he reveals the full range of his sexual deviance.

The second level of the process is *negotiation and persuasion*. The subject's personality style will have a part to play at this level of the assessment process, influencing the way in which particular tasks are undertaken, and disclosures are made. Individuals with high levels of narcissism, for example, may be drawn into certain areas of disclosure (e.g., how successful they were in dealing with police interviews), whereas individuals with schizoid tendencies may be more drawn into discussions of detailed, non-relationship related aspects of their lives.

The third level of the process is how all the available information fits together and how it may change as assessment proceeds, in effect a *dynamic formulation.* What may or may not be missing from this picture will build-up over time, most clearly and fully perhaps within the context of a treatment facility where the offender's progres is closely monitored and he becomes a collaborator in understanding his offending. This will include the patient identifying risk factors and collaborating in treatment and risk management activities, in the knowledge that his ultimate progress through the system will be dependent upon informing and reassuring decision makers. For non-continuous assessments such as those at trial (regarding risk, treatment need and disposition), in the community (regarding risk, treatment & management) and in prison and secure hospitals (regarding continuing risk, further treatment need, & transfer to lower security or release), the assessments will necessarily be less complete and less robust.

Assessment and Diagnosis

From this review of the literature, and in the author's experience of providing assessment reports for the courts, prison, parole board, and mental health review tribunals, all relevant information is rarely available within prison or hospital files, or bundles of documents from the court. Further information generally has to be sought. Sometimes this is available but is located elsewhere, for example with the subject's school, with the police service involved in the prosecution, or at another institution the offender has attended. Sometimes summary documents are available but the original material may be missing and requires to be tracked down and obtained. Sometimes information is not available because it was not collected, not retained, or because could be obtained at the time.

In cases of homicide that may have sexual features or be sexually motivated, the various models of sexual homicide referred to earlier can be a useful framework in which to gather data and formulate hypotheses. The catathymic versus compulsion homicide typology will highlight various competing motivational issues that can be clarified during assessment through combinations of forensic evidence, witness statements, and psychological assessment of the perpetrator. The fact that the assessor will be aware from the research base that catathymic offenders may be more likely to be harbouring unresolved issues connected with self-esteem and sexuality will enable probing of these areas in ways that the offender will hopefully perceive as empathic rather than confrontational.

Intellectual and cognitive assessments. Intellectual and cognitive assessments will provide both a context for the offender's ability to grasp and work with information, concepts and hypotheses, as well as his ability to be "one step ahead" of the assessor, as one interviewee proudly put it to the writer. Subjects with higher levels of

intelligence may well be able to maintain complicated false accounts of events in ways not possible for less able subjects. Some intellectually able subjects may be boastful of their performance during assessment while others may exhibit low self-confidence and self-punishment even when performing well. This can provide material relevant to the discussion in relation of their personality style and other aspects of their lives. Sometimes, subjects can be encouraged through the medium of intellectual assessments to talk about early experiences of success and failure. Most subjects do not try to fake poor intellectual performance but where this happens, findings can be scanned for internal consistency and correspondence with other information about past and current functioning (from documented or interview information).

Comprehensive history. In cases of sexual homicide, the early life history, family relationships, attachments, and early experiences of neglect, abandonment, and trauma can be crucial. These experiences feed into areas of school life, friendships, social life or social isolation, educational history, sexual history, friendships and intimate relationships. It is important to cover this material as thoroughly as possible, drawing from information on file without creating a climate of challenge and confrontation. It is often necessary to go "off script" to follow up leads as they are revealed. Sometimes sexual material is dropped into discussions about educational history, and it is often useful to follow that lead while the subject is prepared to talk about it rather than return to it later when he may be less willing to do so. To follow-up leads in this way conveys empathy and can circumvent defences. It also enables the same material to be covered in other sections of the interview. This allows the consistencies and variations in the offender's story to be cross-referenced and considered.

As noted in many of the studies reviewed, key factors at play within sexual homicides, whether linked to sexual sadism and/or other paraphilias, are the offender's motives and sexual interests, which may be difficult to access. Where interviewees are reluctant to provide information, it can sometimes be useful to present them with a number of possible scenarios for their offending, and doing so in the spirit of helping them remember and explain. In my experience this can yield valuable information in terms of verbal and non-verbal responses (acknowledgments or denials with varying types and levels of emotional reactions attached) that can contribute to the formulation. It is clearly important not to be putting words into people's mouths and to check on, and confirm what has previously been said. For example, for an offender asked to consider his thoughts, feelings, and intentions as he began to assault the victim, it may be possible to elicit responses when the interviewer presents alternative scenarios. For example related to the distinction between a broadly catathymic and a compulsive offence, each with details that could apply to the case in question and each accompanied by appropriately understanding and supportive remarks.

Personality functioning. Personality functioning will also assist with both assessment of the offending behaviour and the subject's responses during assessment. Triangulating data from different sources can be useful in generating and testing hypotheses relevant to the formulation of the case. For example, bringing together information on a predominantly file based assessment such as the PCL-R with psychometric material such as the PDS and MCMI-III assessment, and observed behaviour such as the individual's typical behavioural style with professional staff, family and friends. As illustrated by the work of Beech, Fisher and Ward (2005) on sexual murders' "implicit theories", questionnaire and interview responses can begin to tap into long held beliefs or schema (implicit theories) that offenders have developed. These schemas might include such ideas as, "it's a dangerous world", "male sex drive is uncontrollable", "I am entitled to sex", and "women are sex objects", are likely to contribute to offending and to the way in which offenders approach assessment. Unlike the treatment process, where deviant attitudes are likely to be challenged, the aim in assessment is to reinforce disclosure (while not reinforcing deviance) and there is more scope at this stage to "understand" dysfunctional schema and beliefs in order to get to wider and deeper levels of disclosure. Through this process, in my experience, disclosures can sometimes be elicited. For example, a man who had raped and killed a young woman was at first unable to link his aggressive and sexual urges to aspects of his early relationship and behaviour with his idealized father. He was later able to describe his father as having been sexually violent to him and his mother and was then able to link this to his own offence.

Sexual interests and paraphilias. Sexual interests and paraphilias can be explored through self-report during interviews and through instruments such as the Wilson Fantasy Questionnaire (Wilson, 1978). However, these are transparent methods in which disclosure can easily be avoided should the subject have the ability and inclination to do so. Methods that are less fakeable and/or less direct and/or rely on collateral information are essential in these assessments. Less fakeable methods can be summarized as psychophysiological or information processing. The PPG can be a useful option in cases of sexual homicide. While standard stimuli sets can be useful in generating an arousal profile, more specific stimuli to the case in question can also be introduced on an ideographic basis. In some cases I have dealt with, specific stimuli that corresponded with fetishistic elements of the offences were generated to test potentially offence-related arousal. These included high heeled shoes, white panties, handbags, and ropes. All of these fetish objects had figured significantly in the offences in question, and were clearly identified as paraphilic elements of the offences to which subjects responded strongly during PPG assessment. Even where subjects decline such assessments, their comments can also be revealing as to their fears of what the assessments might "falsely conclude". Hence, discussion about the

possibility of a PPG assessment at some future point, even if not currently accessible to the assessor, can be useful.

Polygraphy. Polygraphy can be a useful addition to the task of assessing and diagnosing sexual deviance and paraphilias. Possible advantages of polygraph assessments in such cases are: (1) enabling greater openness at an early stage in assessment and treatment, (2) helping reduce risk stemming from otherwise unknown information, (3) offering and providing the most appropriate treatments, (4) speeding the risk management/treatment pathway, and (5) providing the offender with an experience of positive collaboration with his assessors/therapists.

Settings for Assessment

Psychological assessments in sexual homicide cases are, by their nature, likely to take place in custodial settings. Many such offenders escalate from combinations of previously less dangerous behaviours, including conduct disorder, social isolation, family dysfunction, paraphilic behaviours, and substance misuse. It could be argued that, although rare, the costs of sexual violence and sexual homicide are so great that screening and voluntary access to services should be developed to try and identify such emerging propensities and provide help for those at most risk of developing dangerous paraphilic behaviour and other forms of sexual offending. In the United Kingdom, the "Stop-it-Now" program provides a direct public access service for people at risk of perpetrating child sex abuse and advice to those concerned about possible child sex abuse. A similar program could potentially be set up to bring together screening tools and assessment processes to help identify and intervene in cases of escalating, paraphilically-related violence.

Conclusions

This chapter sets out some of the empirical background and process issues involved in the identification, diagnosis and assessment of severe paraphilic disorders. "One day, one method" are unlikely to generate a comprehensive and accurate formulation in the individual case. For such rare and idiosyncratic cases as these, it is most likely that a comprehensive understanding of the case will be developed from a dynamic formulation in which initial hypotheses based on the first set of available evidence, are tested through reference to the developing available data set and the targeted gathering of new information. Through a process of repeated iterations, greater confidence will be gained for the validity of some of these hypotheses rather than oth-

ers. Offenders' responses during assessment, whether or not these are limited by long-standing psychological defences or intentional faking and fabrication, will add to the case formulation. As each piece of the puzzle is confirmed (e.g. clarification of crime scene data or the nature of sexual interests/paraphilias), this moves the overall formulation forward. Given that most paraphilic interests and behaviours are not illegal or dangerous, some will however, escalate into dangerous and entrenched behaviour patterns. With this in mind, care must be taken to balance the level and nature of society's interventions with the need to maintain individual privacy and dignity. This chapter suggests that a system of greater public access to information, support and therapy in relation to potentially dangerous paraphilias could be considered, perhaps linked to existing mental health or public safety programs.

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Dr. Perkins' Discussion

Hart: With respect to dynamic formulation, we have talked a little bit about paraphilia and assessment of paraphilia which often gives the impression that it is a stable or static factor that doesn't change much over time. Within your model, what do you think about evaluating change in paraphilia or conducting repeated assessments of paraphilia?

Perkins: In terms of the variability in response, certainly I'd go back to the idea that sexual deviance does interact with other factors over time, which can be quite instructive in relation to a formulation. One man we had who had killed a female acquaintance in a very sadistic way and indeed the PPG results when he came in were very deviant in the sense that he was responding highly to sadistic material. During the course of his stay, he fell in love with a staff member in the hospital. We assessed him during that time and his profile was rather different. There was much less responsiveness to sadistic material. Subsequently, when that ended, he was reassessed again and the original profile was back. This does suggest that we are dealing with, as with sexuality and sexual interest generally, a trait that can vary according to state. Whether people are in love, isolated or angry it is important to have repeated measures and to see them in the context of other aspects of the person's functioning.

Hart: You have highlighted some aspects of paraphilia and its role in formulation, but this dynamic formulation would also allow us to do a bit of differential diagnosis. I am thinking specifically about the tendency to confuse or fail to distinguish between sexual sadism as a motive for homicide versus general sadism. In many cases what we get is general sadism, that is, a desire to demean, control, humiliate and dominate that is not specifically sexual. It may be sexually gratifying in some ways, but that's not the primary motivation or the primary purpose. Seems to me that your dynamic formulation might facilitate differential diagnosis.

Perkins: One of the men I mentioned killed a girl. His PPG was so striking that it did enable him in the end to talk about strangulation as being his most salient sexual activity and something which had led to spontaneous ejaculation. He would represent that end of the continuum where controlling or modifying that propensity to be aroused would be key. Whereas for other people who have committed equally violent offences, the sexual element may be less central or less clear.

Hart: We're talking about PPG assessment and you've said you think it's important to have a set of stimuli that can be individualized or tailored to the individual. With respect to a standard set, is there a set of stimuli that you prefer or recommend?

Perkins: Perhaps there is value in having both standard sets with normative information as well as individualized sets. Rightly or wrongly, with our patients with who have committed sexually violent acts against women, we do use the standard assessment as a starting point and then complement that with more bespoken information and materials to do with that particular case. We have had legal advice in relation to the nature of stimuli we use. The stimuli need to be proportionate and targeted. There are concerns regarding the exposure of a wide range of materials where we couldn't demonstrate sufficient focus on their need or if the materials were far more extreme than would be necessary to achieve the assessment objective.

Hart: Many of the same issues arise with polygraphy in that we have to ask questions that are specific enough to be relevant to that individual. There's an art to crafting a polygraph interview, but do we have a good polygraph interview?

Perkins: There are disclosure interviews and compliance interviews. Disclosure interviews would be around the nature of the offences that had been committed, victims and so on. Typically these interviews would generate a greater level of disclosure of previous offending and interestingly a lower level of descriptions of being sexually abused. Secondly, treatment compliance interviews have to do with whether or not people have been using sexual deviant matter. For example, in addition to those more general questions there would be specific questions that would be relevant for particular cases. In history taking, we are talking to people about unfortunate things that have happened to them, where they were bullied, how they sleep, do they have nightmares, and how do they get on with their brothers and sisters. As people begin to reveal things that you can genuinely be empathic about, it does provide some clues as to how they deal with life problems. In particular, fantasy development and how they coped with the fact they were bullied. "Are you still imagining being powerful and being able to fight back?" So you've got the beginning of a discussion about their early trauma and how they dealt with that behaviourally and in fantasy.

Fernandez: Given that the research on PPG results is pretty limited in terms of what it means for future behaviour, and certainly changes in PPG results, well, we don't have any information on that. I'm wondering what you would suggest in terms of putting that sort of clinical information in a report for decision makers or whether you would leave that out?

Perkins: It comes back to whether we can or cannot make actuarial predictions by saying this is a deviant response. What I am suggesting is working with the individual to elicit information. In the case of this man who strangled the girl, after reviewing his PPG results, he was able to acknowledge his deviant arousal and put that into

his own risk formulation. I think the other thing it can do is to raise particular hypotheses. A PPG assessment can raise other questions that can be followed up with other information. With sexual homicides, what people are doing pre- and post-mortem, can have different meanings and functions that you won't necessarily know from the pathology information and/or the PPG information. You have to talk about what's happened and what they were feeling at the time when they were doing the crime. There are connections between how someone's feeling and how and when they withdraw into fantasy or use fantasy.

Carter: How well, in your experience are people managed in the community, how does this translate into the community?

Perkins: You have to be comprehensive about information gathering and making sure the information is passed along. I think in terms of transfer from high security to medium to community. You need to have agreed treatment plans or monitoring plans that are formally handed over. In forensic mental health we have an enhanced care program approach plan that is passed formally from one agency to another.

Proulx: Some of our data showed that sadistic offenders don't have a normal profile – they are non-responders. When we asked some of these subjects, "what happens during phallometric assessment", they told us that the stimuli presented were of no interest to them. Their fantasies were so far beyond what was presented, they were not excited. This outcome does not mean that he was not excited by sadistic fantasies, but that the stimuli used were not close enough to their fantasies. Also, we found that sadistic offenders had a mean IQ of 113 – higher than the mean of the general population. These sexual murderers have a life sentence, and are motivated to get out of jail. How do you deal with a guy who fakes, or has not been assessed appropriately with standard phallometric assessments, who is very smart, and who is used to coping with psychiatrists/psychologists/criminologists? How do you deal with an offender who is highly motivated to present a good picture with presentation skills that are superior to the average?

Perkins: I think your first point, about have we got material that is sensitive and powerful enough to elicit information, I think that is a problem. Some people do not respond to certain types of assessments and therefore it seems to me having a number of different kinds of methods that you would bring together would be the only approach. In the case I mentioned of the sexual homicide of the woman, the man did not respond in a clear way to the visual PPG material, but we did get some indication from the polygraph. Offenders in that category have certain views as to what

would be best for them. They will often refuse to go through a PPG or a polygraph or will try to "flat-line" on those assessments. I suppose that's what I was alluding to with the notion of persuasion and negotiation. With a sadistic offender, the system will take a default position, "the worst case position". The system will assume he is deviant. It's really in the offender's interest to cooperate with the assessments. If he does cooperate with the assessment, it might show something that the system is assuming is the case anyway or it might not. I think you can convince people to come round to do the assessment.

Harris: Have you seen cases where the presence of mental disorder has short circuited what we assume to be the "normal pathway" to deviant sexuality? Perhaps that dissociation allows a jump from relatively normal sexual behaviour to unusual or deviant sexual behaviour?

Perkins: It was evident that this man had collected and utilized sadistic materials, so he had a paraphilia. But he also had a schizoid and avoidant personality disorder, which made it very difficult for him to cope with family pressures and relationships. I was involved in one case where the expert evidence seems to be casting the various formulations as competing hypotheses. Was this man depressed and acting out in a kind of displaced, angry way, toward a homosexual man because he couldn't cope with his own homosexuality or was he a sadist? The judge, having reviewed all the evidence said "why couldn't it be both?" I think it was both. The combination of the personality disorder, the stress, the depression and this man's horror and excitement about sadistic material came together on that day.

Harris: Would you agree that paying attention to general mental health/mental hygiene, particularly at intake, would be a safety or a risk reducing strategy?

Perkins: I would agree that to address that would be important. I don't think it would be possible to say in a particular case how a particular disorder would play into eventual risk. I think in this man's case his avoidant, schizoid style with depressive features actually played into the enactment, where with other people it may work the other way.

The Biomedical Treatment of Sexual Sadism and Associated Conditions

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ABSTRACT

Sexual sadism is a serious psychiatric condition that can be associated with the death and mutilation of victims of a sexually motivated homicide or an attempted homicide. Sexually motivated homicide or attempted homicide is a rare event with catastrophic consequences when it does occur. The spectrum of sexual sadism can include necrophilia and lust murder. There is surprisingly little evidence based information available with regard to the assessment and treatment of individuals suffering from sexual sadism. Treatments for sexual sadism are principally biomedical. Specifically, pharmacological treatments with the aim of complete suppression of the sexual drive through pharmacological castration.

The Biomedical Treatment of Sexual Sadism and Associated Conditions

Sexual Sadism and Associated Conditions

Sexual sadism is part of a multidimensional concept of sexual violence. The multidimensional nature of sexual violence means that sexual sadism and sexual violence have various definitions depending upon which group is using the term and how the term is used. Sexual sadism is usually used to describe violent sexual behaviour primarily against women and children that involves torture (physical and psychological), as well as, physical violence and coercive sexual activity. This clearly involves nonconsenting partners who are degraded, humiliated, and violently physically and psychologically abused. This chapter will describe the biomedical treatment of paraphilias and conclude with a treatment algorithm recommendation. Sexual sadism coupled with sexual masochism involving consenting partners is widely practiced around the world but is not the subject of this chapter.

Definitions of Sexual Sadism and Associated Conditions

Sexual sadism is defined in Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) as one of the paraphilias "involving acts (real, not simulated) in which the individual derives sexual excitement from the psychological or physical suffering (including humiliation) of the victim. Some individuals with this paraphilia are bothered by their sadistic fantasies, which may be invoked during sexual activity but not otherwise acted on; .... Still others with sexual sadism act on their sadistic sexual urges with nonconsenting victims. In all of these cases, it is the suffering of the victim that is sexually arousing. Sadistic fantasies or acts may involve activities that indicate the dominance of the person over the victim (e.g., forcing the victim to crawl or keeping the victim in a cage). They may also involve restraint, blindfolding, paddling, spanking, whipping, pinching, beating, burning, electrical shocks, rape, cutting, stabbing, strangulation, torture, mutilation or killing" American Psychiatric Association, 1994). Sexual sadism with nonconsenting partners usually involves extreme sexual violence against adults and children and can result in sexually motivated homicides. Sexually motivated homicides can be sadistic or nonsadistic, with distinct clinical characteristics for each group (Gratzer & Bradford, 1995). Recent research has assisted in identifying the clinical characteristics of in-

dividuals committing sexually motivated homicide and attempted homicides against children (Firestone, Bradford, Greenberg, & Nunes, 2000). The study sample clearly showed a deviant sexual preference toward physical violence as one measure of differentiating homicidal child molesters from non-homicidal child molesters (Firestone et al., 2000). When physical violence against nonconsenting partners becomes an erotic sexual preference this is pathopneumonic of sexual sadism.

As sadistic sexual violence involves nonconsenting partners and includes physical violence associated with sexual acts that are against the law is not surprising that most of the perpetrators of these acts would be sexual offenders. However not all sexual offenders suffer from a paraphilia or sexual deviation as defined in DSM-IV (American Psychiatric Association, 1994; American Psychiatric Association & American Psychiatric Association, Task Force on DSM-IV, 2000). It is important to note that when a paraphilia is present there is considerable comorbidity between various paraphilias making it highly unlikely that any individual suffers discreetly from one paraphilia (Bradford, Boulet, & Pawlak, 1992). There is also significant comorbidity with other Axis I psychiatric conditions, specifically substance use disorders and alcoholism (Allnutt, Bradford, Greenberg, & Curry, 1996). The comorbidity with alcoholism correlates with the degree of sexual violence and sexual sadism. When the mean scores of the Michigan Alcohol Screening Test (MAST) were correlated with different paraphilias in a large sample of paraphilic men, the group with a diagnosis of sexual sadism had the highest mean scores on the MAST (Allnutt et al., 1996). Further, previous research on the effects of alcohol ingestion and sexual arousal has shown a specific effect related to rape (Wormith, Bradford, Pawlak, Borzecki, & Zohar, 1988). This means the treatments and risk management of sexual sadism must include the management of alcoholism and other substance use disorders.

The operational criteria for sexual sadism in DSM-IV-TR have recently been criticized due to a lack of diagnostic reliability. One study of experienced forensic psychologists found that the coefficient for reliability across diagnoses was extremely poor with a kappa coefficient of only 0.14 (Marshall, Kennedy, & Yates, 2002; Marshall, Kennedy, Yates, & Serran, 2002). This is a complicated issue in part related to the failure of the Council of the American Psychiatric Association to include a recommendation by the subcommittee on sexual disorders to have a section of "Coercive Paraphilic Disorders" in DSM-III-R (American Psychiatric Association & American Psychiatric Association, Work Group to Revise DSM-III, 1987). It is also related to a lack of research studies focusing on sexual sadism and sadistic sexually motivated homicide.

Research has also shown that sexual sadism is associated with organic brain damage specifically in the temporal lobe (Hucker & Stermac, 1992; Langevin, Bain,

Wortzman, Hucker, Dickey, & Wright, 1988). A study of sexually sadistic homicide perpetrators found that over 50% of the sample had evidence of some neurological abnormality (Gratzer & Bradford, 1995) and a similar study by Briken, Habermann, Berner, & Hill (2005) found that over 30% of a sample of sexually motivated homicide perpetrators had brain abnormalities. In another study Briken, Habermann, Berner, & Hill (2006) found a considerably higher incidence of XYY syndrome (a distinct chromosome abnormality) in sexually motivated homicide perpetrators. Other studies have documented similar findings, specifically using brain imaging and brain activation techniques to examine this association (Mouras et al., 2003; Redouté et al., 2000; Stoléru et al., 1999). These studies indicate the need for a neuropsychiatric workup in cases of sexual sadism and sexually motivated homicides. In addition, increased prevalence of brain abnormalities in sexually sadistic homicide perpetrators means the probability of brain abnormality must be taken into account in any treatment approach and most specifically, in biomedical treatments. In general brain abnormality is associated with disinhibited sexual behaviour and poor impulse control (Bradford, 2001).

The biomedical approach is based on a fundamental understanding of endocrinology; neurobiochemistry and the clearly documented effects of surgical castration in animal research and humans. These are all evidence-based approaches that have been in existence for many years. Surgical castration and stereotactic neurosurgery are mostly of historical interest at this time although they have contributed considerably to an understanding of the biomedical approach. Pharmacological treatments using specific serotonin reuptake inhibitors (SSRIs); hormonal agents and specific antiandrogens form the basis to pharmacological treatments and now constitute the accepted biomedical approach. These pharmacological approaches can be used in any type of paraphilia or sexual deviation. The mechanism of action for these pharmacological agents is clearly understood based on extensive animal and human research.

Neurobiology of Sexual Behaviour

Although a full discussion of the neurobiology of sexual behaviour is beyond the scope of this chapter, a brief review as a foundation to the biomedical approach to treatment of sexual sadism would be helpful. Although it would be premature to say that the neurobiology and neuropharmacology of sexual behaviour is fully understood, it would be accurate to say that there is a far greater understanding of the neurobiology of sexual behaviour when compared to many mainstream psychiatric conditions including major depression, bipolar disorder, and schizophrenia (Bradford, 1996, 2001). Serotonin (5

HT) is a neurotransmitter that is involved in the neurobiology of many psychiatric conditions. Pharmacological treatments that modulate central serotonin levels are effective treatments in many psychiatric conditions including major depression and schizophrenia. It has long been known that antidepressant and antihypertensive medications have significant sexual side effects impacting on sexual desire, sexual arousal and orgasm. This is particularly true for antidepressants that affect 5 HT levels in humans but also play an important role in the research into the neurobiology of sexual behaviour. In fact, pharmacological agents affecting serotonin have played an integral role in animal models of human sexual dysfunction (Cantor, Binik, & Pfaus, 1999; Matuszczyk, Larsson, & Eriksson, 1998; Pfaus, 1999). Antihypertensive drugs such as clonidine also have significant effects on sexual behaviour. Animal behavioural experiments on non-contact erections, the homologue of psychogenic stimulated erections in humans, have been studied using nitrous oxide and other pharmacological agents (Pfaus, 1999). Human and animal sexual behaviour has also been extensively studied from the standpoint of sexual hormones. The way in which various neuroendocrine conditions correlate with sexual stimulation, sexual arousal and sexual drive have all been well-established through extensive research over many years (Bradford, 2001; Pfaus, 1999; Stoléru, Ennaji, Cournot, & Spira, 1993). There has been ongoing scientific progress in understanding the relationship between plasma hormone levels (most specifically free and total testosterone) and other hormones as well and the relationship between these hormone levels and sexual arousal, simulation, and sexual desire or sexual drive (Halpern, Udry, & Suchindran, 1998). The effects vary by age and there are also hormonal effects in woman correlating with sexual behaviour (Sarrel, 1998; Sarrel, Dobay, & Wiita, 1998). There has also been research completed to examine the neuroanatomical correlates of sexual arousal which appear to be associated with bilateral activation of the inferior temporal cortex, the right insular and inferior frontal cortex and the left anterior cingulate cortex. These areas are related to the limbic system and the degree of activation correlates with plasma testosterone levels. One of the first studies to document this was completed by Stoléru et al. (1999) using positron emission tomography (PET). As already outlined, there is evidence of brain abnormalities being associated with sexual sadism. This is complicated by the fact that sexual sadism is also associated with antisocial personality disorder. Antisocial personality disorder is also associated with violence and there is increasing evidence of a complex interaction between biological factors of brain abnormality, hormone levels, genetic factors, as well as various psychosocial factors all of which contribute to psychopathy and violence in humans (Raine, 2002; Raine et al., 2003). As research techniques improve and more specifically as brain imaging techniques improve it is highly likely that the contribution of these individual factors to psychopathy, sexual violence and physical violence in humans, will be better understood.

Pharmacological Treatment

The pharmacological treatment of sexual sadism and necrophilia is based on what is known about the neurobiology of human sexual behaviour. It is mostly based on the modification of neurotransmitter levels principally involving serotonin (5HT) but also the reduction of sex hormones by pharmacological intervention. Pharmacological treatments that modulate levels of 5HT had been shown to be successful in treating a number of sexual disorders including sexual deviation, the paraphilias, and nonparaphilic hypersexuality. Pharmacological agents that increase 5HT levels in the brain reduce sexual desire, sexual arousal, and increase levels of sexual dysfunction. These 5HT receptors have been classified according to molecular biological techniques and various subtypes have been identified. These 5HT receptors have been classified as $5HT_1$; $5HT_2$; $5HT_3$; $5HT_4$; $5HT_5$; $5HT_6$; $5HT_7$. Pharmacological research has identified ligands for the various receptors and sub receptors. As this research progresses, understanding how receptor agonists and antagonists affect the various receptor systems will allow for further understanding of what receptors play a specific role in sexual behaviour, what receptors are involved in various psychiatric conditions, and the role of 5HT in various behaviours such as impulsivity and various types of aggression.

The pharmacological treatment of sexual deviation or the paraphilias includes the treatment of sexual sadism and associated conditions. The pharmacological treatments are classified as: (1) specific serotonin reuptake inhibitors (SSRIs); (2) antiandrogen and hormonal treatments; and (3) luteinizing hormone releasing hormone agonists (LHRH agonists).

The SSRIs

Drugs that increase 5HT levels in the central nervous system reduce sexual desire and deviant and non-deviant sexual behaviour. Starting in approximately 1990, SSRIs were used for the treatment of the paraphilias, such as exhibitionism, with considerable success. Fluoxetine hydrochloride and sertraline hydrochloride have been the pharmacological agents most commonly used (Emmanuel, Lydiard, & Ballenger, 1991; Kafka, 1991a, 1991b, 2003; Kafka & Prentky, 1992; Lorefice, 1991; Perilstein, Lipper, & Friedman, 1991; Stein et al., 1992; Zohar, Kaplan, & Benjamin, 1994). Kafka (1991b) reported on four patients treated for non-paraphilic hypersexuality with fluoxetine and reported significant reductions in sexual drive. Included were three cases of paraphilia also treated with fluoxetine where considerable clinical improvement was observed. Coleman, Cesnik, Moore, & Dwyer (1992) reported on a study of 13 paraphilic males and found significant reductions in deviant sexual urges and behaviour. Kafka (1994) also reported on an open clinical trial using ser-

traline to treat paraphilia and nonparaphilic hypersexuality and reported a clinical response rate of 50%. The subjects showed significant reductions in deviant sexual fantasies, urges, masturbation and deviant and non-deviant sexual behaviour. Bradford, Greenberg, Gojer, Martindale, & Goldberg (1995) completed a 12 week open label dose titrated study of sertraline in the treatment of pedophilia. The mean effective dosage was 131 mg per day which approximates the mean effective dosage seen in studies of sertraline in the treatment of obsessive-compulsive disorder. This provides some support for the paraphilias being part of obsessive compulsive spectrum disorders (Bradford, 1999). The treatment effects were significant, showing reductions in sexual drive, sexual fantasy, and other sexual behaviour. Most significantly there was a normalization of the sexual arousal patterns with suppression of deviant sexual arousal, coupled with a maintenance or relative increase in non-pedophilic arousal to consenting sex with adults. Greenberg, Bradford, Curry, & O'Rourke (1996) and Greenberg & Bradford (1997) completed two other studies with SSRIs. One compared the relative effectiveness of three SSRIs (Greenberg et al., 1996) and the other compared the treatment effects of SSRIs to a control group that received only cognitive behavioural treatment (Greenberg & Bradford, 1997). In the first study the three SSRIs (fluoxetine, sertraline, and fluvoxamine) were equally effective in reducing deviant sexual fantasies, urges, and sexual behaviour in a variety of paraphilias. In the second study, the SSRIs showed significant treatment effects, reducing the severity of deviant sexual fantasies and urges at a statistically significant level when compared to the control group.

In appropriate dosages the SSRIs have a significant treatment effect on sexual drive; sexual fantasies, including deviant sexual fantasies; and in addition, suppress deviant sexual arousal. As with all pharmacological agents the treatment effects are across all paraphilias, including sexual sadism. In the case of multiple paraphilias in any given individual, a single pharmacological treatment would have an impact on all of the paraphilias, reducing all deviant sexual fantasy, urges, arousal and behaviour.

The Antiandrogen and Hormonal Treatments

These pharmacological treatments were developed from the observation that surgical castration had a significant treatment effect on the recidivism of sexual offenders. Long-term studies of the recidivism of sexual offenders that were surgically castrated showed dramatic impact on recidivism, reducing it from over 60% to less than 5% in all studies (Bradford, 2000). Pharmacological agents that reduced plasma testosterone and therefore replicated the treatment effects of surgical castration were developed for treatment intervention in sexual offenders. Initially, estrogens were used. However the side effect profile of nausea, vomiting, weight gain and fem-

inization prevented the widespread use of these pharmacological agents in the treatment of sexual deviation. They were effective however in reducing plasma testosterone levels and subsequently, a significant reduction of sexual desire, deviant sexual urges, and fantasies as well as behaviour (Bradford, 2000). Medroxyprogesterone acetate (MPA), a progestinic agent has been the most common form of pharmacological treatment for sexual deviation in the United States (Bradford, 2000). This in part is related to the lack of availability of cyproterone acetate (CPA) in the United States. MPA is a progestagen that decreases circulating levels of testosterone by enzyme induction in the liver as well as blocking the secretion of gonadotropins at the pituitary level. It is not a true antiandrogen in that it does not block the intracellular molecular androgen receptors. CPA which has been used extensively in Canada, Europe, and elsewhere is a true antiandrogen that blocks the intracellular testosterone receptors throughout the body (Bradford, 2000). The effect is to decrease sexual drive with an impact on all types of sexual behaviour including fantasies, urges and behaviour. It also decreases the secretion of gonadotropins in a similar treatment effect to MPA. Both of these drugs have been shown to have a significant treatment effect on deviant sexual fantasies, deviant sexual urges, and deviant sexual behaviour (Bradford, 2000). It is this treatment effect that has led to the extensive use of these pharmacological agents in the treatment of sexual deviation. They have also been used in the treatment of more serious sexual deviations.

MPA has principally been used in open clinical studies starting in the late 1970s and early 1980s. It can be given as an intramuscular injection of 400 mg weekly as part of an initial treatment, dropping to low dosages with maintenance treatment once the plasma testosterone levels have been reduced to prepubertal levels (Bradford, 2000). It can also be used orally in dosages ranging from 50 mg to 400 mg per day. Monitoring of treatment through a sex hormone profile at regular intervals is imperative to treatment success. The reduction of plasma testosterone to prepubertal levels is required for an adequate treatment response. It also provides an important measure of compliance. Any sudden discontinuation of the pharmacological treatment with MPA is not likely to result in any immediate consequences. Long-term treatment may result in the development of osteoporosis or osteopenia. This can be prevented or treated by medical intervention (Bradford, 2000; Grasswick & Bradford, 2003). A review of the clinical studies that have been completed using MPA can be found in review articles by the author (Bradford, 1988, 1999, 2000, 2001).

CPA has been more extensively studied and for a longer period of time than MPA and the studies include a larger number of subjects (Bradford, 2000). These studies have been mostly open clinical studies and recidivism rates as a treatment outcome measure has been included in a number of the studies as well as double-blind placebo-controlled studies. Further, many individuals included in the studies

had high rates of recidivism initially and this was part of the sample selection for the studies. These studies included both rapists and pedophiles.

Some of the rapists would by definition have been sexually sadistic (Bradford, 2000). In trying to treat a number of paraphilias, recidivism as a treatment outcome measure was included in studies of CPA (Bradford, 2000). The impact on sexual offense recidivism was identical to the impact of surgical castration on sexual offender recidivism. The author of this review completed a double-blind study using CPA in the treatment of pedophilia (Bradford & Pawlak, 1993a). Further, a study of CPA on the sexual arousal patterns of pedophiles clearly showed a normalization of the sexual arousal patterns with a suppression of deviant sexual arousal and a relative increase in normophillic arousal (Bradford & Pawlak, 1993b).

CPA can be given orally in dosages from 100 mg a day to 400 mg per day. It is also given intramuscularly usually weekly or biweekly in dosages from 100 to 200 mg. Monitoring of the sex hormone profile, similar to that in MPA, is important although the plasma testosterone levels do not need to be brought down to prepubertal levels for treatment effectiveness. This is a complicated issue that is not fully understood, however, it may be due to the fact that CPA has an effect on the intracellular androgen receptors. These receptors most likely become desensitized with time as a result of the receptor blockade (Bradford, 2000, 2001). This allows lower dosages to be used with long-term treatment. It also allows for the maintenance of a degree of sexual behavior for consenting adult partners. An ideal treatment for sexual deviation would be the suppression of deviant sexual interests while allowing normophillic sexual interests to continue. CPA has been shown to have this type of treatment profile. The author also completed a single case study with repeated measures of CPA in the treatment of sadistic homosexual pedophilia. The subject had perpetrated sexually motivated homicides against children that showed sexual sadism. The subject also had extensive brain damage in the temporal lobe of the brain. Treatment with CPA resulted in a significant impact on the sexual arousal patterns as measured by penile tumescence. CPA had the effect of suppressing both pedophilic and sadistic arousal at the same time maintaining the degree of normophillic arousal that was present. This was the first time it was documented that CPA had the effect of normalizing the patterns of sexual arousal in individuals with sexual deviation (Bradford & Pawlak, 1987). CPA can be used to titrate plasma testosterone levels against treatment effects. When used intramuscularly, the treatment effects would be to reduce the plasma testosterone levels to castration levels leading to a pharmacological castration (Bradford, 2000).

The LHRH Agonists

The luteinizing hormone releasing hormone agonists have also been used to treat the paraphilias. They have a specific treatment effect where an over stimulation

of the hypothalamus occurs resulting in complete suppression of gonadotropin secretion and a drastic reduction of plasma testosterone levels to castration levels in a period of four to six weeks. These are the pharmacological agents for castration and form the most intrusive of the pharmacological interventions. The LHRH agonists are given intramuscularly and have a prolonged action requiring injections on a monthly or tri-monthly basis. The pharmacological agents that have been used are luprolide acetate, goserelin acetate and tryptorelin acetate. The dosage is usually 7.6 mg monthly with an equivalent tri-monthly dosage. These drugs have mostly been used for the treatment of prostate cancer where the aim of treatment is to reduce the plasma testosterone levels to castration levels (Rousseau, Couture, Dupont, Labrie, & Couture, 1990). There have been clearly documented effects on sexual behaviour.

The clinical studies in the treatment of paraphilias are limited to single case studies and relatively small treatment outcome studies (Rosler & Witztum, 1998; Thibaut, Cordier, & Kuhn, 1993). Even though this is the case, the mechanism of action of the LHRH agonists and the effect of a reduction of free and total testosterone to castration levels is well established in the scientific literature. The impact on sexual behaviour is profound with an almost complete reduction of sexual desire, sexual fantasy, overt sexual behaviours such as masturbation, sexual intercourse and a drastic reduction of sexual arousal. Also well-established is a calming effect or anti-aggressive effect in general on the person's behaviour.

The biomedical treatment approach has been promoted as an algorithm. This algorithm was based on an enhanced classification of severity of psychiatric disorders, and paraphilias specifically, following the guidelines of DSM-III-R and later in DSM-IV (American Psychiatric Association & American Psychiatric Association, Task Force on DSM-IV, 1994; American Psychiatric Association & American Psychiatric Association, Work Group to Revise DSM-III, 1987; Bradford, 2000). The enhanced classification scheme is as follows: (1) mild; (2) moderate; (3) severe; and (4) catastrophic.

Mild is defined as deviant sexual fantasies without any hands-on sexually deviant behaviour. *Moderate* is defined as deviant sexual fantasies and deviant sexual behaviour but at a low level. This would mean that the deviant sexual behaviour would be nonintrusive such as fondling as opposed to penetration and the number of victims would be low. *Severe* is defined as deviant sexual fantasy and deviant sexual behaviour that is occurring at a higher frequency and is also intrusive, involving penetration as opposed to fondling. *Catastrophic* is defined as clear evidence of sexual sadism both in fantasy and behaviour; predatory sexual behaviours such as stalking victims, sexually motivated homicidal urges and behaviour.

The Treatment Algorithm

The treatment algorithm is linked to the severity scale and encompasses six levels of treatment for the four levels of severity:

1. *Level 1:* Regardless of the severity of the paraphilia everyone would receive a cognitive behavioural treatment program based on a relapse prevention model as well as individual cognitive behavioural treatment programs as necessary.
2. *Level 2:* Pharmacological treatment would start with the SSRIs in appropriate dosages. This would be the treatment in all cases of mild paraphilias.
3. *Level 3:* If the SSRIs were not effective in four to six weeks of adequate dosage levels, a small dose of an oral antiandrogen would be added to the SSRI treatment régime. A typical treatment régime at this level would be 150 mg of sertraline per day and 50 mg of CPA per day. The CPA could be substituted with 50 mg of MPA per day. This treatment level would cover mild and moderate paraphilias.
4. *Level 4:* This would be full oral antiandrogen treatment. For example, this would be CPA or MPA at 50 to 300 mg per day. This treatment régime would be used in most moderate cases and some severe cases.
5. *Level 5:* This consists of full intramuscular antiandrogen treatment. This typically would be 300 mg of MPA given intramuscularly every week as part of an initial régime of treatment. Once the levels of testosterone were sufficiently suppressed the dosage level would drop to a maintenance level of 400 mg every four weeks. For CPA this would be 200 mg given intramuscularly biweekly.
6. *Level 6:* This consists of complete androgen suppression or pharmacological castration. This is achieved by CPA in dosage levels of 200 to 400 mg per week. Alternatively, LHRH agonists would be used. LHRH agonists are effective at creating pharmacological castration more effectively than CPA. A typical régime with the LHRH agonists would be Lupron (Luprolide acetate) 7.6 mg given monthly.

From this algorithm, linked to a scale of severity, sexual sadism is at the highest level of severity and in most cases would require pharmacological castration at level 6 or significant androgen suppression at level 5 to control the risk of catastrophic deviant sexual behaviour.

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Dr. Bradford's Discussion

Mossman: What about the role of other pharmacological treatments in these individuals. You talk about a number of people with temporal lobe damage who may, whether they have seizures or not, derive benefit from anti-epileptic medications. A number of these people have attention-deficit hyperactivity disorder (ADHD), a number of these people have features, if not the full-blown clinical picture of bipolar disorder. Some of them have psychotic disorders. Is it ever the case that addressing those other disorders and not giving them anti-sexual treatments, is that ever appropriate?

Bradford: Most of the cases I am talking about, other than the brain damage, don't have significant Axis I disorders. If there was an Axis I disorder, you can actually pick and choose atypical anti-psychotics and use them for somebody who has a psychotic condition who may be sexually disinhibited. Where it gets more complicated and I think this is where I struggle, if you look at the prevalence of ADHD in a forensic population, it is over 50%. If you accept for the moment that this may be an indictor of minimal brain dysfunction, you've got a population with something going on organically which really worries me. With that you get impulsivity and all kinds of other problems and that is a tough population to deal with if they are also sexually deviant. Under those circumstances, some of the times you are combining – because many of them have impulsive aggression as well as impulsive deviant sexuality. The common factor may be impulsivity but it may not be coming entirely from a sexual motivation. It may have to do with brain damage and disinhibition. So, in those circumstances what we have done is we have treated them for libido reduction, but then we have looked at some of the drugs such as Topiramate (i.e., Topemax) and the anti-epileptic drugs that may have effects on impulsivity. We may have combined them with SSRIs in some instances, so we have had to be more experimental in some ways to come up with a package for that individual.

Mossman: What about diagnostic or causal specificity in selecting treatment? There appears to be quite a bit of causal specificity in the treatments that you might pick, beyond those specifically directed toward suppressing sexual drive.

Bradford: I talked about paraphilias as sort of "hands on" and "hands off". Hands off paraphilias would be voyeurism, fetishism and things like that. They would be mild in my algorithm. 15 years ago most of them would have been treated with cognitive behavioural therapy. Today, we treat most of them with SSRIs and cognitive behavioural therapy. As you get into "hands on" paraphilias, and obviously pedophilia

is a concern, and as you go up toward sexual sadism, then the pharmacological intervention becomes more specific.

Mossman: It sounds like specificity of the pharmacological intervention has to do with greater intensity on the part of the clinician in wanting to suppress this individual's sexuality as opposed to some sort of diagnostic consideration about the pattern in which the sexual fantasies take place. In other words, it's not that you'd be addressing obsessionality with an SSRI, you are saying you use a more aggressive intervention and potentially more toxic intervention in situations where the cost of failing to successfully treat the individual is going to be higher.

Bradford: I would have some trouble justifying treating an exhibitionist with a lutenizing hormone releasing hormone agonist. However, there are some exhibitionists who convert into more serious activity. The first person that I ever treated with Cyproterone Acetate (CPA) was a chronic exhibitionist who had been to jail for two years and had just got out of jail. Upon his release we found that he had got better at choosing the victims he would expose to. So, he would choose people who were more likely not to report him. He came into the clinic and was starting a CPA study and he said "Ah, it's a waste of time, I have had this treatment, that treatment, you know" and he was completely unmotivated for anything. So, he came back four weeks later and looked completely different. He walked in, and the first thing he said to me was "The fantasies have gone". I have never forgotten that. His fantasies had gone and he no longer had the motivation to expose. But I wouldn't treat an exhibitionist today with CPA. Certainly when we didn't have SSRIs available about 20-30% of people in the clinic would have received pharmacological treatment and 70% cognitive behavioural treatment. Whereas today it's probably about 90% and only about 10% that would only get cognitive behavioural treatment and that's because of the SSRIs which are easy to give and seem to work well.

Mossman: You just described an individual who four weeks after a pharmacological intervention had a great change in his cognitive apparatus. Although I have never had those kinds of experiences, I can imagine from talking with my patients that it might be a great relief not to be obsessed with ideas that everyone knows society disapproves of. At what point relative to an individual's sentence, when the sentence might end, do you think treatment should begin with pharmacological agents? In disorders like schizophrenia or bipolar disorder, pharmacological treatment is a precursor to other kinds of treatment in almost all cases because those pharmacological treatments make available people's coping mechanisms to deal with other problems. I wonder if that is the case here as well?

Bradford: My opinion has changed over time. I have said that you shouldn't give anti-androgens in a total institution because I was worried about the longer term side effects. I saw them as part of a pre-release package. Where I have changed my mind is in relation to SSRIs, where the long term side effects of SSRIs are much less problematic than anti-androgens and non-hormonal treatments. I think it has also become clear that even on low dosages, there is some suppression of the deviant fantasies. My colleagues are telling me that patients on SSRIs tend to work better in some of the cognitive behavioural programs because they are less driven by fantasies. Now, if that is the case, and at this point it is just anecdotal, then I think that is fine. Certainly, I have patients who have told me over and over again, that they feel better, that they're not as compulsively driven, and I use that term very specifically. The interesting thing is that most of us assume that these people have sexual fantasies and that their deviant sexual fantasies are ego syntonic, but in fact, some of them are ego dystonic. People really need to get their head around that. If ego dystonic sexual fantasies are suppressed with something that is not a significant pharmacological intervention, I think it can be very helpful. So, I've changed my mind from say 10 or 15 years ago.

Schweighofer: We were speaking earlier about the role of fantasy and deviant masturbation as a method of coping with interpersonal, interpsychic malaise. Have you had any experience or examples where as a function of their sexually deviant fantasies being knocked down, that other problematic replacement behaviours arise?

Bradford: I had a homicide perpetrator on an intramuscular anti-androgen. He really didn't like it, and he had become impotent and had no libido at all. It was quite clear that he was taking the medication only because he was compelled to do so. I had always felt it was critical he didn't drink. I had tested him with phallometric testing, both in an alcohol and non-alcohol state, and there was an enormous difference. As he became more unhappy, he drank more which the supervising authorities missed, they were not monitoring his alcohol intake. He really had disinhibited arousal in the lab on alcohol, he had discovered that, and he was trying to generate arousal and in fact, I guess was partially successful. He was a homosexual pedophile, he had killed a young boy. But he acted out against an adult female, it was a very minor sexual assault, but it nonetheless could have been a lot worse. The ideal situation would be to have a person who is sexually active but in a normaphilic way at a low level. If you could achieve that, then you would be great.

Harris: When you are considering release, is libido reduction always indicated? When I see a guy I am anticipating to release, what are the things that would be on

your "hit list" of factors that should cause me to say, "this guy is worth a psychiatric referral?"

Bradford: In our clinic, libido suppressants are provided to about 80 to 90% of our sex offenders, and we are treating fairly mild people. It works well and they tolerate it well, some of them have 50mg of Sertaline a day. If you ask me who needs a Luteinizing Hormone-Releasing Hormone agonist (LHRH), or who needs CPA, then these would be the people where there is any question of sadism, anybody that is highly predatory and anybody who is a significant recidivist. Those are the kinds of high risk people where I consider anti-androgen treatment. High sex drive, one orgasm a day or more, whether he has a "hands off" or "hands on" paraphilia, I think the degree of compulsivity is significant. I'd be worried about the ability of the individual to benefit from cognitive behavioural therapy without some kind of libido suppressant.

Harris: I realize these are only guidelines, but the high sex drive issue, the one plus orgasm a day guy, do you take age into account and to what extent, when you are making those mental calculations?

Bradford: Age is taken into account. Age and sexual offence recidivism are related. In fact, what you are doing with anti-androgens is bringing on age, in some ways. Many of the people who are pedophiliac only present in their 30s. I have certainly got people who are over the age of 60 that I've got on medication. Don't forget that as you get older, you may have disinhibited sexual behaviour for other reasons. You have to look at the individual case. I don't think there is a one-size-fits all.

Hart: Your treatment algorithm actually focuses on treatment of paraphilia. Paraphilia in the DSM is limited to the focus of arousal as opposed to the tone or level of arousal. However, we see many people who appear to be hypersexual or have a high tone of arousal without any specific focus. Their sexual behaviour can get them into trouble simply because of a lack of normal inhibitions. Would you say that your treatment algorithm would be suitable for people who might have sexual behaviour problems unrelated to paraphilia?

Bradford: If you look at non-paraphilic hypersexuality most of them are treated with SSRIs and some with a low dose of an oral anti-androgen. They do extremely well. Now, most of them do not have a paraphilia but they get themselves into difficulties because of inappropriate sexual behaviour. Where it gets more difficult is where you've got somebody who is not necessarily displaying paraphilic behaviour

but disinhibited sexual behaviour as a result of, say, a head injury or dementia. So then you see things like non-paraphilic hypersexuality, the 900 phone numbers, masturbating in the washroom instead of working, touching woman's bums at work and getting in trouble that way. When you get into these more complicated issues, there is not an easy recipe.

Proulx: Your program has quite impressive results with guys in the community for 11 or 12 years. How do you manage? They have to be involved intensively in a program where they develop skills to be able to have, relationships with other people. How did you deal with those subjects?

Bradford: Most of them have come through hospital having been found not criminally responsible. Most have some kind of legal stipulation that requires treatment. It doesn't force them to have treatment but it puts conditions on where they might live, how they cascade out of hospital, and other things like that. Some of them, because of their progress, have been discharged a long time ago. There is one guy that sort of hums and haws about taking his medication at this point, but he takes it. There's a lot of supportive psychotherapy and vocational rehabilitation with them. In terms of social skills training and things like that, they've had it. Many of them have actually got quite a good network of friends that they've built up, but not a lot of them have intimate partners. Now, that is not surprising, they have almost no sexual interest. But they do have other friends including both male and female friends. So they have developed their own support network without necessarily having an intimate partner.

Proulx: You reduce sexual arousal but on the other side, you help them to improve their social network, to deal with social isolation, and intense feelings?

Bradford: Right and certainly you need to get them into the community. Some of them are seen weekly; some of them are seen once or twice a week, at least initially by a community nurse or they have home visits and we bring them back into hospital for groups. Groups and social programs are a significant support and patients are encouraged to participate and socialize. A lot them go onto internet dating, or think about it, which worries me, because I'm never sure what's going to happen with that. But, so far so good. The majority of them have not established intimate partnerships but they have friendships and real friends in the community.

Risk Assessment: Sexual Violence and the Role of Paraphilia

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Risk Assessment: Sexual Violence and the Role of Paraphilia

Violence is a major determinant of physical and psychological well-being. In 1996, the Forty-Ninth World Health Assembly resolved that violence, including sexual violence against women and children, is "a leading worldwide public health problem" (Resolution WHA49.25; cited in Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002, pp. xx-xxi) and urged its member states to take steps to deal with the problem, including the implementation of violence prevention programs.

According to Dahlberg and Krug (2002), the view that "violence can be prevented and its impact reduced...is not an article of faith, but a statement based on evidence" (p. 3). They discuss various prevention programs, noting that their efficacy depends in part upon the systematic identification of risk and protective factors. This is true regardless of whether the programs are designed to prevent victimization among people who have never been exposed to violence (i.e., primary or "true" prevention), those who appear to be at elevated risk for violence (i.e., secondary prevention), or those who have already been victimized by violence in the past (i.e., tertiary prevention).

The process of identifying (putative) risk and protective factors is sometimes referred to as risk assessment. Similarly, the process of preventing undesired outcomes by influencing risk and protective factors is sometimes referred to as risk management. Risk assessment and risk management are integral parts of the contemporary criminal justice and public health responses to violence (Andrews & Bonta, 2003; Kraemer et al., 1997). Unfortunately, despite major advances in the field, the assessment and management of risk for sexual violence remain difficult and complex tasks.

My goals in this chapter are threefold. The first is to review some important points concerning the process of sexual violence risk assessment. The second is to discuss the role of paraphilia, an established risk factor, in sexual violence risk assessment. The third is to comment specifically on issues related to sexual sadism, erotophonophilia (lust murder), and necrophilia with respect to the assessment and management of risk for sexual violence.

Sexual Violence Risk Assessment

The Nature of Risk for Sexual Violence

A risk is a hazard that is incompletely understood, and thus whose occurrence can be forecast only with uncertainty (Bernstein, 1996). The hazard we are concerned with in this chapter is sexual violence, which may be defined broadly as *actual, attempted, or threatened contact or communication of a sexual nature that is deliberate and nonconsenting* (Boer, Hart, Kropp, & Webster, 1997; Hart et al., 2003). Sexual violence is a complex phenomenon. Acts of sexual violence can vary greatly with respect to such things as motivations, acquaintanceship with the victim, severity of physical or psychological injury to victims, and so forth. Accordingly, risk for sexual violence is multi-faceted and cannot be conceptualized or quantified simply, for example, in terms of the probability that someone will engage in sexual violence. Instead, one must also consider the nature, seriousness, frequency or duration, and imminence of any future sexual violence (Hart, 1998, 2001; Janus & Meehl, 1997; but cf. Kapur, 2000; Kraemer et al., 1997). Also, risk for sexual violence is inherently dynamic and contextual (Hart, 1998, 2001; Kapur, 2000). For example, the risks posed by offenders depend on such things as where they will reside; what kinds of monitoring, supervision, and treatment services they will receive; their future motivation to establish a prosocial adjustment; and whether they will experience adverse life events. In essence, risk for sexual violence is not a characteristic of the physical world that can be evaluated objectively, but a subjective perception – something that exists not in fact, but in the eye of the beholder. These opinions regarding the nature and degree or quantum of risk in a given case, as well as the selection of risk management strategies and tactics, are based in turn on judgments regarding the collective influence of myriad individual things or elements, referred to as risk factors.

But what exactly is a risk factor? It is relatively easy to demonstrate using a wide range of research designs that a thing is, on average, correlated with sexual violence. Yet things that are correlated with sexual violence may be causes, features, concomitants, or even consequences of sexual violence. A risk factor is a correlate that also precedes the occurrence of the hazard and therefore may play a causal role (Kraemer et al., 1997). Demonstrating that some thing is a risk factor requires longitudinal research or well-substantiated theory. Risk factors may be further subdivided into three types (Kraemer et al., 1997). Fixed risk markers do not change in status over time. Variable risk markers change status over time, but these changes do not influence the outcome. Causal risk factors change status over time, and these changes influence the outcome. Differentiating among these three types of risk factors also requires longitudinal designs, and ideally experimental or quasi-experimental longitudinal designs.

Considerable attention has been devoted to the identification of (putative) risk factors for sexual violence. There have been several excellent summaries of the research literature in recent years (Hanson & Bussière, 1997; Hanson & Morton-Bourgon, 2005). Unfortunately, there is no good research or theory that helps us to determine the nature of risk factors, ascertain their potency, understand how they are associated with each other, or specify what causal role they may play with respect to sexual violence.

The Nature of Assessment

Assessment is the process of gathering information for use in decision making. The specific assessment procedures used are determined by what is being assessed and the nature of the decisions to be made. In the case of sexual violence risk assessment, we must assess what people have done in the past, how they are functioning currently, and their goals and plans for the future. The decisions to be made are strategic in nature, including what should be done in clinical and legal settings to cope with or manage the risks posed by an offender (Hart, 2001; Heilbrun, 1997; Monahan, 1995; Monahan & Steadman, 1994).

Sexual violence risk assessment can be defined as the process of evaluating offenders to: (1) characterize the risk they will commit sexual violence in the future; and, (2) develop interventions to manage or reduce that risk (Hart, 2001; Hart et al., 2003). Put differently, the task is to understand how and why a person chose to commit sexual violence in the past, and then to determine what could be done to discourage the person from choosing to commit sexual violence in the future. The specific procedures used to gather relevant information typically include: interviews with and observations of the person being evaluated; direct psychological or medical testing of the person; careful review of available documentary records; and interviews with collateral informants such as family members, friends, and service providers (Hart et al., 2003; Webster, Douglas, Eaves, & Hart, 1997).

Goals of Sexual Violence Risk Assessment

The ultimate goal of sexual violence risk assessment is prevention, or the minimization of the likelihood of and negative consequences stemming from any future sexual violence. But sexual violence risk assessment should achieve a number of goals in addition to the protection of public safety (Hart, 2001; Hart, Laws, & Kropp, 2003). A "good" risk assessment procedure should also yield consistent or replicable results. That is, mental health professionals should reach similar findings when evaluating the same patient at about the same time. It is highly unlikely that inconsistent or unreliable decisions can be of any practical use. Furthermore, a good risk assessment procedure should be prescriptive; it should identify, evaluate, and

prioritize the mental health, social service, and criminal justice interventions that could be used to manage an offender's violence risk. Finally, a good risk assessment procedure should be open and transparent. Put another way, professionals are accountable for the decisions they make, and it is therefore important for us to make explicit, as much as is possible, the basis for professional opinions. A transparent risk assessment procedure allows offenders and the public a chance to scrutinize our opinions. The transparency should protect professionals when an offender commits sexual violence despite the fact that a good risk assessment was conducted, as it can be easily demonstrated that standard or proper procedures were followed. Transparency should also protect offenders and the public by making it obvious when an improper risk assessment is conducted.

It is impossible for any single risk assessment procedure to achieve all these goals with maximum efficiency. Similarly, it is impossible for the various parties interested in sexual violence risk assessment (offenders, corrections professionals, administrators, parole board members, lawyers, judges, victims, etc.) to reach a consensus regarding which procedure is "best" for all purposes and in all contexts (Hart, 2001; Hart, Laws, & Kropp, 2003). Instead, professionals should choose the best procedure or set of procedures for a particular assessment of a particular patient after considering explicitly the legal context of the evaluation.

Approaches to Sexual Violence Risk Assessment

Corrections professionals use two basic approaches to reach opinions about sexual violence risk: professional judgment and actuarial decision-making (Menzies, Webster, & Hart, 1995; Monahan, 1995). These terms refer to how information is weighted and combined to reach a final decision, regardless of the information that is considered and how it was collected (Meehl, 1996). The hallmark of professional judgment procedures is that the evaluator exercises some degree of discretion in the decision-making process, although it is also generally the case that evaluators have wide discretion concerning how assessment information is gathered and which information is considered. It comes as no surprise that unstructured clinical judgment is also described as "informal, subjective, [and] impressionistic" (Grove & Meehl, 1996; p. 293). In contrast, the hallmark of the actuarial approach is that, based on the information available, evaluators make an ultimate decision according to fixed and explicit rules (Meehl, 1996). It is also generally the case that actuarial decisions are based on specific assessment data, selected because they have been demonstrated empirically to be associated with violence and coded in a pre-determined manner. The actuarial approach also has been described as "mechanical" and "algorithmic" (Grove & Meehl, 1996; p. 293).

Professional judgment procedures. The professional judgment approach comprises at least three different procedures. The first *is unstructured professional*

judgment, also referred to by Hanson (1998) and others as *unaided clinical judgment.* This is decision-making in the complete absence of structure, a process that could be characterized as "intuitive" or "experiential". Historically, it is the most commonly used procedure for assessing violence risk and therefore is very familiar to mental health professionals, as well as to courts and tribunals. It has the advantage of being highly adaptable and efficient; it is possible to use intuition in any context, with minimal cost in terms of time and other resources. It is also very person-centered, focusing on the unique aspects of the case at hand, and thus can be of great assistance in planning interventions to manage sexual violence risk. The major problem is that there is little empirical evidence that intuitive decisions are consistent across professionals or, that they are helpful in preventing sexual violence. As well, intuitive decisions are unimpeachable; it is difficult even for the people who make them to explain how they were made. This means that the credibility of the decision often rests on charismatic authority — that is, the credibility of the person who made the decision. Finally, intuitive decisions tend to be broad or general in scope, so that they become dispositional statements about the offender ("Offender X is a very dangerous person") rather than a series of speculative statements about what the offender might do in the future assuming various release conditions.

The second professional judgment procedure is sometimes referred to *anamnestic risk assessment* (Melton, Petrila, Poythress, & Slobogin, 1997; Otto, 2000). Anamnesis comes from the Greek word for "remembrance" or "recollection," and is used to refer to the process of history-taking in medicine. This procedure imposes a limited degree of structure on the assessment as the evaluator must, at a minimum, identify the personal and situational factors that resulted in sexual violence in the past. The assumption here is that a series of events and circumstances, a kind of behavioural chain, led up to the offender's act of sexual violence. The professional's task therefore is to understand the links in this chain and suggest ways in which the chain could be broken.[1] However, there is no empirical evidence supporting the consistency or usefulness of anamnestic risk assessments. Anamnestic risk assessment also seems to assume that history will repeat itself — that sexually violent offenders are static over time, so the only thing they are at risk to do in the future is what they have done in the past. Nothing could be further from the truth. There are many different "trajectories" of sexual violence. Some offenders will escalate in terms of the frequency or severity of violence over time, some change the types of sexual violence they commit, and some will de-escalate or even desist altogether.

[1] In this way, anamnestic assessment has much in common with relapse prevention or harm reduction approaches to treating sex offenders.

The third procedure is *structured professional judgment*, or what Hanson (1998) and others call *guided clinical judgment*. Here, decision-making is assisted by guidelines that have been developed to reflect the "state of the discipline" with respect to scientific knowledge and professional practice (Borum, 1996). Such guidelines — sometimes referred to as clinical guidelines, consensus guidelines, or clinical practice parameters — are quite common in medicine, although used less frequently in psychiatric, psychological, or correctional assessment (Kapp & Mossman, 1996). The guidelines attempt to define the risk being considered; discuss necessary qualifications for conducting an assessment; recommend what information should be considered as part of the evaluation and how it should be gathered; and identify a set of core risk factors that, according to the scientific and professional literature, should be considered as part of any reasonably comprehensive assessment. Structured professional guidelines help to improve the consistency and usefulness of decisions, and certainly improve the transparency of decision-making. They may, however, require considerable time or resources to develop and implement. Also, some evaluators dislike this "middle ground" or compromise approach, either because it lacks the freedom of intuitive decision-making or because it lacks the objectivity of actuarial procedures.

Actuarial procedures. There are at least two types of actuarial decision-making. The first is the *actuarial use of psychological tests*. Classically, psychological tests are structured samples of behaviour designed to measure a personal disposition. Psychological tests are an attempt to quantify an individual's standing on some trait dimension. Research indicates that some dispositions, such as psychopathy, may be associated with sexual violence risk in a meaningful way (Hanson & Morton-Bourgon, 2005). On the basis of research results, one can identify cutoff scores on the test that maximize some aspect of predictive accuracy. This procedure has several strengths, most importantly its transparency and the demonstrated consistency and utility of decisions made using tests. One major problem is that the use of psychological tests requires considerable discretion. Professionals must decide which tests are appropriate in a given case, and judgment also may be required in test scoring and interpretation. Another problem is that reliance on a single test does not constitute a comprehensive evaluation and will provide only limited information for use in developing management strategies and tactics. More generally, the actuarial use of psychological tests focuses professional efforts on (passive) prediction rather than (active) prevention.

The second type of procedure is the use of *actuarial risk assessment instruments*, also know as *actuarial tests*, *tools*, or *aids*. In contrast to psychological tests, actuarial instruments are designed not to measure anything but solely to predict the future. Typically, they are high fidelity, optimized to predict a specific outcome

in a specific population over a specific period of time. The items in the scale are selected either rationally (on the basis of theory or experience) or empirically (on the basis of their association with the outcome in test construction research). The items are weighted and combined according to some algorithm to yield a decision. In sexual violence risk assessment, the "decision" generally is the estimated likelihood of future violence (e.g., re-arrest for a crime against persons) over some period of time. Like psychological tests, actuarial instruments have the advantage of transparency and direct empirical support; they also suffer many of the same weaknesses including the need for discretion in selecting a test, interpreting findings, and the limitations of the test findings for use in planning interventions. There are additional problems with actuarial instruments that estimate the absolute likelihood or probability of recidivism. One is that they require considerable time and effort to construct and validate. In cases where the time frame of the prediction is long, true cross-validation may require decades. Also, when constructing actuarial tests there is a classic bandwidth-fidelity trade-off between precision of estimated recidivism rates and generalizability. The same statistical procedures that optimize predictive accuracy in one setting will decrease that test's accuracy in others (Mossman, 2006). Finally, it is easy to accord too much weight to information concerning the estimated likelihood of recidivism provided by actuarial tests. Most actuarial tests of violence risk yield very precise likelihood estimates, proportions with 2 or 3 decimal places, but they do not provide the information necessary to understand the error inherent in these estimates (Hart, Michie, & Cooke, 2007). When one considers the fact that many of these estimates were derived from relatively small construction samples and have not been validated in independent samples, it is clear that the actuarial test results are only pseudo-precise (Mossman, 2006). It is important for any professional who uses actuarial tests to understand and explain to others the limitations of absolute likelihood estimates of recidivism (Mossman, 2006).

Some commentators (Hanson, 1998) have discussed another approach, which sometimes is referred to as *adjusted actuarial decision-making*. Here, evaluators start by using an actuarial risk assessment instrument and then adjust or reinterpret the findings intuitively in light of additional information. Its reliance on evaluator discretion means that this approach is properly considered a variety of structured or assisted professional judgment. Indeed, the term "adjusted actuarial" is somewhat oxymoronic. If there are fixed and explicit rules for adjusting the findings, then the procedure is actuarial; if there are not, then it is discretionary. Especially when an actuarial test was constructed on the basis of empirical research, it makes no sense to take test scores and then introduce guesswork (a "fudge factor") into the equation (Grove & Meehl, 1996; Meehl, 1997; Quinsey, Harris, Rice, Cormier, 1998).

Limitations common to professional judgment and actuarial procedures. Existing sexual violence risk assessment procedures tend to suffer from important limitations. One is that they tend to focus on negative characteristics or features — factors associated with increased risk — rather than personal strengths, resources, and protective or "buffer" factors. A comprehensive risk assessment designed to assist in the development of interventions must take into account these positive features. A second problem is that few existing risk assessment procedures are tied to the development of interventions in a systematic or prescriptive manner. This is, in part, because most risk assessment procedures focus on identifying the presence of risk factors, rather than their functional relevance. In any given case, decisions about which interventions to use requires evaluators to determine which risk factors are most important and why they are important (i.e., the nature of their causal influence). A third problem is one of quality assurance. Basic research to develop risk assessment procedures is important, but it is naïve to assume that any procedure will function similarly in the field. Evaluative research is required to monitor the implementation of risk assessment procedures, to determine whether they are functioning optimally and what could be done to improve their use.

The Role of Paraphilia in Sexual Violence Risk Assessment

Now, we turn to a discussion of paraphilia as a risk factor for sexual violence, and how it can be used to inform decisions regarding risk assessment and risk management.

The Nature of Paraphilia

Paraphilia has been recognized in psychopathology for the past 100 years or so, and is included in nosologies such as the text revision of the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association; *DSM-IV-TR*, 2000) and the tenth edition of the *International Classification of Diseases* (World Health Organization; *ICD-10*, 1992). It can be defined as *sexual arousal to inappropriate stimuli that forms a stable pattern and causes distress, dysfunction, or disability*. Several aspects of the general definition of paraphilia warrant further discussion.

Sexual arousal. Sexual arousal may be defined as stimulation or gratification of sexual appetite. It may be manifested in ideation, urges, physiological activity, and behaviour of a sexual nature involving a stimulus. Ideation includes thoughts, fantasies, and images involving the sexual stimulus that occur while awake or asleep and of which the person is aware. Urges are action impulses, drives to engage in spe-

cific behaviours involving sexual stimulus. Physiological activity includes such things as increased blood flow to genitalia, changes in hormone levels, and instinctual or involuntary motor behavior in response to the sexual stimulus. Behaviour includes voluntary, purposive behaviour involving the sexual stimulus, such as seeking proximity to the stimulus.

Inappropriate stimuli. Paraphilia is a disorder of sexual appetite. Here the focus is clearly on the target rather than the degree or intensity of sexual arousal – that is, what people are aroused by, not whether their level of arousal is too high or too low. In fact, it is more appropriate to refer to paraphilia as a family of mental disorders, the individual members of this family being distinguished on the basis of the inappropriate stimuli to which people are aroused. But how does one determine whether a sexual stimulus is inappropriate? Psychopathologists assume that the primary function of sexual arousal is to enhance mating and child-rearing success by strengthening the pair bond between conspecifics. Thus, sexual stimuli are inappropriate when they interfere with pair-bonding, mating, and child-rearing success. The inappropriate stimuli to which people become aroused are incredibly diverse; indeed, scores – perhaps even hundreds – have been described and named by psychopathologists. The major categories of inappropriate sexual stimuli include inanimate objects, non-human animals, age-inappropriate people (i.e., much younger or much older), non-consenting people, specific body parts (i.e., as opposed to the person as a whole), and mistreatment of people (e.g., causing or experiencing degradation, humiliation, suffering). In the *DSM-IV-TR*, diagnostic criteria are provided for eight specific forms of paraphilia, and all others are classified under the heading "Not Otherwise Specified" or "NOS."

Stable pattern. It is normal and expected for human beings to experience sexual arousal and even to engage in sexual behaviour involving a wide range of stimuli, including inappropriate sexual stimuli, during the course of their lives. This is especially true during some developmental periods, such as around the time of puberty. Paraphilia is distinguishable from exploratory sexual behaviour because the former is persistent or longstanding whereas the latter is occasional, episodic, transient, or isolated. Symptoms of paraphilia typically start at about the age of puberty and persist into late adulthood. But stable does not mean fixed or static. Paraphilia has a developmental course, and it may change or evolve over time in focus (Lehne & Money, 2003). Also, symptoms of all mental disorders, including paraphilia, fluctuate in severity over time (Seligman & Hardenburg, 2000), either spontaneously or as the result of treatment.

Distress, dysfunction, or disability. By definition, mental disorders represent important life problems. Unless it causes substantial impairment of psychosocial adjustment, a stable pattern of sexual arousal to inappropriate behavior is simply un-

usual, odd, or rare. Paraphilia can impair psychosocial adjustment in several ways. First, it can cause personal distress because people consider the pattern of sexual arousal to be inconsistent with self-concept, socially unacceptable, or morally wrong.[2] Second, as discussed previously, it can cause dysfunction because it interferes with pair-bonding, mating, and child-rearing success. Third, it can cause disability because it makes people less able to fulfill important social roles and obligations, resulting in violations of important norms and disturbed social relations (e.g., family break-up, alienation from friends and acquaintances, loss of employment, arrest or conviction).

Assessment and Diagnosis of Paraphilia

Corrections professionals – and especially mental health professionals working in correctional settings – who consider paraphilia as part of their sexual violence risk assessments know their evaluations will be or are likely to be subject to considerable scrutiny in front of courts, tribunals, or review boards. When incorrect or poorly formed, the opinions offered by professionals may have a profound negative impact on the civil liberties of offenders or on public safety (Mossman, 2006). Unfortunately, there are no simple or standardized assessment procedures (e.g., self-report questionnaires, structured interviews, medical tests) that have established reliability or validity for the diagnosis of paraphilia. This means that assessments must be judged with respect to clinical tradition or wisdom, referred to more properly as "standards of practice".

Given the high stakes of sexual violence risk assessments, corrections professionals should not only meet but exceed the standard of practice in general clinical settings (Heilbrun, 1992, 2003). A problem is that standards of practice are somewhat vague and amorphous, in part because they are established by and embodied in many different documents that reflect the views of disparate groups and individuals and that change over time. Standards of practice relevant to forensic mental health in general, as well as those relevant to paraphilia more specifically, include: authoritative treatises, such as the *DSM-IV-TR* and *ICD-10*; the practice guidelines of professional organizations that specialize in forensic mental health (e.g., the American Academy of Forensic Psychology, the American Psychology-Law Society, the American Academy of Psychiatry and Law) or sexual offenders (e.g., the Associa-

[2] This is why diagnostic criteria for paraphilia avoid specifying that the pattern of sexual arousal is "important" or even "preferred": These terms seem to imply that people accept and enjoy their pattern of sexual arousal (technically, *ego-syntonic*). This is not the case; a paraphilia may be experienced as personally distasteful (technically, *ego-dystonic*). Of course, for the purposes of complete description, a paraphilia may be characterized as "optional," "preferred," or even "exclusive."

tion for the Treatment of Sexual Abusers, the International Association for the Treatment of Sexual Offenders); and works by people widely accepted as experts in the field (Heilbrun, 2003; Marshall, 2006; Prentky, Janus, Schwartz, & Kafka, 2006). Although a comprehensive review is beyond the scope of this chapter, we will take the opportunity to discuss some important standards (Hart & Kropp, in press).

Assessments of paraphilia should be comprehensive. As noted previously, there are many different forms of paraphilia, each of which has diverse symptomatology. Also, specific forms of paraphilia frequently are comorbid with each other and with other mental disorders (Kafka & Hennen, 2002). Mental health professionals should attempt a direct and comprehensive evaluation of paraphilia, gathering information about normal and abnormal sexual ideation, urges, physiological activity, and behaviour.

An important corollary of this standard is that assessments of paraphilia should avoid over-focusing on convictions for sexual offenses. Sexual offenses are neither necessary nor sufficient for a diagnosis of paraphilia. Many people with paraphilias never act on their ideation or urges; and many of those who act in a manner consistent with their paraphilia do so in a way that may be perfectly legal (Marshall, 2006). Also, many – perhaps the majority – of people who commit sexual offenses do not suffer from a paraphilia. Sexual offenses may be the result of many other causal factors, including such things as anger, generalized negative attitudes toward women, poor impulse control, poor heterosocial skills, and inappropriate sexualization of non-sexual needs (Ward & Beech, 2006). Assuming that all sexual offenders have a paraphilia is as illogical as assuming that all thieves have kleptomania or that all arsonists have pyromania.

Assessments of paraphilia should evaluate its course. As noted previously, paraphilia must be persistent to qualify as a mental disorder. The *DSM-IV-TR*, for example, requires continuous duration of at least six months, but the usual presentation is very long-standing. As First and Tasman (2004) pointed out, "Erotic intentions that are *not* longstanding...may be problematic in some ways but they are not clearly paraphilic" (p. 1086; emphasis in original). Also, symptoms of all mental disorders, including paraphilia, fluctuate over time (Seligman & Hardenburg, 2000).

A corollary of this standard is that assessments of paraphilia should avoid assuming that, once diagnosed, the disorder is always present. Human sexual functioning, both normal and abnormal, changes across the lifespan. There is a marked decrease in the intensity of sexual appetite and the frequency of sexual behaviour that is generally evident by the age of 60 to 70 years. Also, sexual appetite and sexual behaviour may decline as a result of physical illness or injury. It is possible that age or illness may lead to partial or full remission of paraphilia (Barbaree, Blanchard, & Langton, 2003).

Assessments of paraphilia should be multi-method. Because the symptomatology of paraphilia is complex with respect to nature and course, mental health professionals should use multiple methods of assessment. These include such things as personal interviews, interviews with collateral informants, polygraphic interviews, record reviews, medical or psychophysiological testing (e.g., penile plethysmography), and behavioural observations (McConaghy, 2003; Seligman & Hardenburg, 2000).

A corollary of this standard is that assessments should avoid over-focusing on single methods of assessment, such as personal interviews, self-report questionnaires, or review of criminal records. Any assessment method that relies on uncorroborated statements made by the person being evaluated (e.g., interviews, self-report questionnaires) is suspect, because people with paraphilia often minimize or deny symptoms due to feelings of shame or embarrassment and to their desire to avoid negative consequences for sexual misbehaviour. Similarly, for reasons discussed previously, convictions for sexual offenses are weak evidence of paraphilia. Evidence concerning the presence or absence of symptomatology obtained via personal interview, self-report questionnaires, and review of criminal records should be corroborated by evidence gathered from other assessment methods, such as polygraphic interviews, penile plethysmography, or behavioural observation (Heilbrun, 2003; Marshall, 2006).

Diagnoses of paraphilia should reflect standardized criteria. The law is inherently conservative, and evidence that is based on idiosyncratic views and opinions may be viewed as potentially unreliable and accorded little or no weight in forensic settings. When making diagnoses, mental health professionals should adhere as closely as possible to criteria that are generally recognized and accepted in the field, such as those in the *DSM-IV-TR* or *ICD-10*. As Prentky et al. (2006) noted in their discussion of the role of diagnosis in sexually violent predator proceedings, "The *DSM-IV-TR* is almost universally relied on as the authoritative support for expert opinions on mental abnormality or personality disorder. The classification of a syndrome as a mental disorder in the *DSM-IV-TR* must be regarded as the primary standard for medical validity" (p. 364).

Mental health professionals should avoid giving novel or inchoate diagnoses when someone manifests symptoms of paraphilia but does not meet the criteria for one or more specific forms of paraphilia. It is common practice to diagnose such people as possibly suffering from paraphilia (e.g., "Provisional" or "Rule Out" diagnoses) or as suffering from a rare or unspecified paraphilia (e.g., "Paraphilia, Not Otherwise Specified"). In civil settings, this practice makes some sense. Alerting others to the possibility that a patient suffers from paraphilia may help them to plan or deliver treatments more effectively. The costs of false positive and false negative diagnoses are relatively small and roughly equal. In correctional settings,

though, the routine diagnosis of possible or unspecified paraphilia can have serious repercussions. Judges, juries, review boards, or tribunals may not realize that such diagnoses may reflect relatively minor or isolated problems or significant uncertainty on the part of the evaluator. They may also not be aware that diagnostic criteria for paraphilia are a source of considerable controversy, and that their reliability and validity is largely unknown (Levenson, 2004; Marshall, Kennedy, Yates, & Serran, 2002; Miller, Amenta, & Conroy, 2005; Prentky et al., 2006). Improper diagnoses may lead the legal system to become skeptical of mental health professionals more generally. As Prentky et al. (2006) noted, "The introduction of new mental disorders and the distortion of standard mental disorder categories undercuts the legitimacy of science and limits its ability to provide a sound and objective touchstone in the fight to understand and reduce sexual violence" (p. 361).

Incidence and Prevalence of Paraphilia

Due to a complete absence of epidemiological studies, it is unclear how many people in the general population meet the criteria for a lifetime or current diagnosis of paraphilia. But general population surveys and the high number of publications and interest groups focused on specific sexual topics suggest that at least occasional or transient sexual arousal to inappropriate stimuli is common.

In correctional settings, it appears that a minority of people convicted of sexual offenses – substantially less than half – meet the criteria for a lifetime diagnosis of paraphilia. The prevalence rate among people charged with non-sexual offenses is unknown.

Etiology of Paraphilia

The etiology of paraphilia is unknown, but the causal influences likely include both biological and socio-psychological factors (Walters, 1997). With respect to biological factors, considerable research has focused on exposure genetics, abnormalities of the temporal lobes, and intrauterine hormone events (Quinsey, 2003; Walters, 1997). With respect to socio-psychological factors, it has been noted for many years that people who develop paraphilia report having had a sexual experience with an inappropriate stimulus at an early age, usually before puberty (age 10 or younger), that they found intensely arousing and resembled the focus of their paraphilia (Lehne & Money, 2003; Herdt & McClintock, 2000). This is consistent with some behavioral (e.g., conditioning) theories.

Treatment of Paraphilia

One approach to the treatment of paraphilia is to change the target or focus of people's sexual arousal (i.e., to substitute new and more appropriate stimuli for inappropriate sexual stimuli). A second treatment approach is to change people's sex-

ual behaviour (i.e., to encourage desistence of undesired behaviour). A third approach is to decrease people's sexual arousal. A fourth approach is to decrease people's distress, dysfunction, or disability, without attempting to change their sexual behavior or arousal; however, for obvious reasons, this approach is not suitable for treating paraphilias in people at risk for sexual violence and is not discussed further here.

Evaluations of behavioural and cognitive-behavioural techniques have reported very limited success in terms of changing the focus of people's sexual arousal (e.g., via masturbatory reconditioning), and somewhat better but still only small to moderate success in terms of changing sexual behaviour (e.g., via comprehensive sex offender treatment programs in institutional or community settings). These techniques have not been used to decrease people's sexual arousal (see Carter, this volume).

Pharmacological agents have proven to be highly successful in changing people's sexual arousal, but their use is contraindicated in some cases due to potentially harmful side effects and these agents have achieved only moderate success in terms of changing sexual behaviour. Agents have not been developed to change the focus of people's sexual arousal (see Bradford, this volume).

With respect to other treatment techniques, there is no evidence that psychotherapies (such as psychoanalysis) are successful in changing the focus of people's sexual appetites, their sexual behaviour, or their sexual arousal. Surgical castration is highly effective in changing sexual arousal and moderately effective in changing sexual behaviour, but does not appear to change the focus of people's sexual appetites and is almost never performed due to its harmful consequences and irreversibility.

Paraphilia and Risk Assessment

Theoretical views. No single theory or set of theories of sexual violence is generally accepted in the field. Most theories agree, however, that there are several major motivations for (alternatively, pathways to) sexual violence. Aside from paraphilia, some of the more commonly discussed causal risk factors include: impulsivity or poor self-control; anger or vindictiveness; loneliness or social isolation; empathy or attachment deficits; and cognitive distortions or attitudes that condone antisocial, violent, or sexually violent behaviour (Ward and Beech, 2006).

One set of theories that has proven useful for assessment and management may be referred to loosely as "decision theory," which comprises models such as rational choice, routine activity, social cognition, and social learning theories. A hallmark of decision theories is that they assume the proximal cause of behaviour is a decision, and that this decision normally involves a set of cognitive operations. These cognitive operations can be delineated as: formulating goals, considering various courses of action to achieve goals, weighing the potential benefits and costs associ-

ated with these courses of action, selecting and implementing a course of action, and, finally, evaluating and revising a course of action. Decision theories do not assume that the decisions people make are rational, well considered, or even fully conscious; indeed, the decision-making process may be flawed in important ways.

It is possible to explain the causal role paraphilia within the framework of decision theories. Specifically, paraphilia should influence decisions about whether to engage in sexual violence in one or more of the following ways. First, people with certain forms of paraphilia may be more likely than others to think about engaging in sexual behaviour that is illegal. Second, when they move on to the stage of evaluating or re-evaluating courses of action, people with paraphilia may perceive illegal sexual behaviour as having greater potential for benefit than do other people. For example, people with pedophilia may experience ideation or urges involving sexual behaviour with children more often than do other people, and they are also more likely to judge such behaviour as rewarding (e.g., sexually gratifying). Similarly, fetishism may be associated with risk for sexual violence if it predisposes people to consider and positively value the idea of stealing women's shoes or underwear; and sexual sadism, if it predisposes people to consider and value the idea of demeaning, controlling, humiliating, or injuring other people without their consent.

Two observations can be made here. First, according to theory, there should be a clear link between the nature of the paraphilia and the nature of the sexual violence for which people are at risk. This is a very useful idea, because it can be used to guide risk assessment in terms of trying to explain past behaviour ("Is it possible that one reason this offender raped a woman is that he suffers from a paraphilia such as sexual sadism [biastophilia, etc.]?"). This idea can also be useful for forecasting future behaviour ("Given the nature and course of this offender's sexual sadism [biastophilia, etc.], what impact is it likely to have on his future decisions regarding sexual violence?"). The second observation is paraphilia is only one of many potentially important causal risk factors. According to theory, paraphilia does not operate in isolation, and risk assessment must consider how it may interact with other factors (e.g., attitudes that support or condone sexual violence, lack of empathy, loneliness). This is useful because it helps to ensure that risk assessments are personalized or individualized, rather than generic or stereotypical.

Empirical evidence. Surprisingly, there has been relatively little research that directly examines the prognostic value of diagnoses of paraphilia with respect to sexual violence. Instead, research has tended to examine specific facets of paraphilia, such as sexual preferences or interests or physiological activity in response to specific inappropriate sexual stimuli. Also, this research has focused on sexual offenders (i.e., people with a history of sexual violence); there is no population- or community-based research on paraphilia and sexual violence.

With respect to research on sexual offenders, Hanson and Morton-Bourgon (2005) conducted a meta-analysis of risk factors for sexual violence. They located 82 studies of a total 29,450 sexual offenders, and from these studies coded 1,620 effect sizes for various risk factors. The risk factors were grouped into seven major categories, one of which was labeled "sexual deviancy" and comprised such things as inappropriate sexual interests, as measured by self-report questionnaires; physiological arousal to inappropriate stimuli, as measured by penile plethysmography; past sexually deviant behaviour, as measured by prior convictions for sexual offenses; and clinical ratings, based on the integration of multiple sources of information, which closely resemble diagnoses of paraphilia. According to Hanson and Morton-Bourgon (2005), 32 of 82 studies yielded effect size estimates for sexual deviancy risk factors, and this category had the highest mean effect size ratings of the seven categories. Within the sexual deviancy category, only eight of 82 studies yielded effect size estimates for clinical ratings, but their average effect size was moderate and higher than that of other risk factors related to sexual deviancy. Taken together, these findings suggest that paraphilia is an important risk factor for future sexual violence.

Although past research provides some useful hints about the potential importance of paraphilia, it is limited in some important respects. First, as noted previously, paraphilia rarely has been assessed directly; instead, researchers have examined variables or factors associated with paraphilia. Second, most studies have examined paraphilia-related factors in isolation, ignoring their potential interactions with other risk factors. Third, most studies have examined the statistical association between paraphilia-related variables or factors and the likelihood or probability of future sexual offenses (i.e., arrest, charge, or conviction for sex crimes), ignoring the association between paraphilia and other facets of risk for sexual violence (e.g., the nature, severity, imminence, and frequency or duration of future sexual violence). Fourth, most studies have relied on simple retrospective or prospective cohort designs, in which variables or factors are coded from information at a single point and then recidivism is coded from official records at a single point in time some months or years later. This methodology ignores the fact that the impact of paraphilia almost certainly changes over time (e.g., is much less important in late adulthood than in early or middle adulthood).

Paraphilia and Risk Management

A comprehensive strategy for managing sexual violence risk should be developed according to several principles (Andrews & Bonta, 2003; Hart, 2001; Kropp, Hart, Lyon, & LePard, 2002). First, the strategy should reflect overall judgments regarding the risks posed by the offender. Second, it should focus on risk management activities or tactics that are relevant in the case at hand, so each relevant risk factor

is addressed (i.e., neutralized or contained) by one or more activities. Third, it should be personalized in a way that maximizes its robustness and effectiveness for the offender. Let us discuss each of these principles in turn.

The management strategy should reflect risks posed. The risk management strategy should reflect both the nature and degree or quantum of risk in the case at hand. With respect to the nature of the risks posed, professionals must speculate about the types or kinds of sexual violence the individual may perpetrate in the future. The evaluator must ask the question, what exactly is it that I am worried this offender might do? The answers are based on an analysis of what the offender has done in the distant and recent past, as well as what the offender is thinking about doing or planning to do at the present time. These descriptions of "possible futures" may be referred to as *scenarios*, short narratives designed to simplify complex issues in a way that facilitates communication and planning (Chermack & Lynham, 2002; Hart et al., 2003; Ringland, 1998; Schwartz, 1990; van der Heijden, 1997). The scenarios are not predictions about what *will* happen, but rather projections about what *could* happen. Although the number of possible scenarios is almost limitless, in any given case only a few distinct scenarios seem plausible, credible, or internally consistent to evaluators in light of theory, research, experience, and the facts of the case (Chermack & van der Merwe, 2003; Pomerol, 2001).

With respect to the quantum or degree of risk posed by the offender, evaluators should think in both absolute and relative terms. In absolute terms, risk is the probability or likelihood that the person will perpetrate a specific type of sexual violence. Although it is impossible to predict the future with any reasonable degree of scientific or professional certainty, evaluators can meaningfully or plausibly rank-order the different types of sexual violence that an offender might commit in terms of the probability or likelihood of occurrence. For example, the likelihood an offender will commit sexual homicide is generally much lower than the probability of a non-lethal sexual assault. In relative terms, judgments of risk reflect the level of effort or attention that should be devoted to the management of this offender vis-à-vis other offenders. For example, it may be useful to classify cases as low or routine priority, moderate or elevated priority, and high or urgent priority (Hart et al., 2003).

It is only after evaluators have identified what types of sexual violence the offender might perpetrate and how worried they are the offender might do so that they can take rational steps to prevent the sexual violence from occurring.

The management strategy should reflect relevant risk factors. Consistent with decision theories, there are several ways in which a risk factor may be relevant to risk management (Hart, in press). First, it may be a *motivator* of sexual violence. A motivator is a risk factor that makes sexual violence an attractive or rewarding option for the person. For example, paraphilia may lead someone to perceive child mo-

lestation as a viable means of obtaining sexual gratification; and generalized anger at women may lead someone to perceive stranger rape as a means of expressing anger or seeking retribution. Second, the factor may be a *disinhibitor* of sexual violence. A disinhibitor is a risk factor that makes the person less likely to be influenced by restraints, prohibitions, or proscriptions against sexual violence, regardless of whether these are intrinsic or extrinsic in nature. For example, alcohol intoxication, extreme anger, or lack of empathy associated with personality disorder may lessen the person's experience of anticipatory anxiety when he considers the possibility of perpetrating sexual violence. Finally, even when it is not causally related to violence, a risk factor may play a role as an *impeder* of risk management. An impeder is a risk factor that decreases the effectiveness of the various tactics that are or could be used to prevent future sexual violence. For example, anti-authority attitudes may lead the person to reject the assistance offered by a probation or parole officer; and impulsivity associated with personality disorder may impair the person's ability to make, implement, and revise plans regarding psychological or psychiatric treatment.

But how do evaluators determine which risk factors are relevant in a given case, and how are these risk factors relevant? Unfortunately, there is a simple or objective test for measuring relevance. Neither is it possible to use the results of scientific research, as what is true in general may not be true in this specific case. This means that judgments about relevance – like scenarios of future violence – are hypotheses based on scientific theory, scientific research, personal experience, and the facts of the case. Although it is not possible to test directly the scientific validity of these hypotheses, it is possible to evaluate the plausibility or reasonableness of their underlying rationale.

It is sometimes assumed that risk factors are less relevant if they are fixed in nature or if they are "static" or "stable" (i.e., appear to change little or slowly over time). But very few risk factors are truly fixed. Age, criminal history, marital history, and visible tattoos are examples of risk factors that are often characterized as static, yet clearly all of these can and do change over time.

Even factors that are truly fixed may change status over time due to new information or re-consideration of old information. For example, the person may decide to disclose personal information, or other people may provide collateral information that had not been previously reported. And even then a factor that is truly fixed and unchanged in status may change in relevance. A change in the relevance may reflect differences over time in the judgment of the evaluator or in the psychological meaning of the risk factor for the person being evaluated. For example, date of birth may not change, but a person may become more reflective about his lifestyle as he ages, leading to an increase in the perceived costs of perpetrating violence. Chromosomal sex may not change, but a person may develop a gender identity dis-

order that leads him to become resentful of, and angry at, people of the opposite sex. For a more detailed discussion of the role of fixed, static, or stable factors in the management of violence risk, see Hart, Douglas, and Webster (2001).

The management strategy should be personalized. A risk management strategy should be *personalized* or *individualized* for the case at hand. It may be useful to think of sexual violence risk management in terms of building fence or wall designed to contain the risks posed by an offender (English, Jones, & Patrick, 2003). Building the fence requires a plan (the risk management strategy) that reflects the lay of the land (the risks posed by the offender). The plan should specify landmarks for placement of the fence (relevant risk factors) as well as the fencing materials to be used (the risk management tactics).

To ensure that a risk management strategy is robust and maximally effective, each relevant risk factor should be targeted by multiple tactics. To continue with the fence metaphor, some parts of a fence are more critical than others, and in these parts it may be necessary to place more fence posts or a stronger foundation. Also, a risk management strategy that relies on a number of different professionals working in different agencies and clinics may require coordination activities such as regular interdisciplinary meetings or a detailed policy and procedure document (Kropp et al., 2002). Metaphorically, it may be important for someone to travel the perimeter of the fence, making sure that all the posts remain upright and the fencing material is intact.

More on risk management tactics. Risk management tactics can be divided into four basic categories: monitoring, treatment, supervision, and victim safety planning (Hart et al., 2001; Kropp et al., 2002).

Monitoring, or repeated assessment, is always a part of good risk management. The goal of monitoring is to evaluate changes in risk over time so that risk management strategies and tactics can be revised as appropriate. Monitoring services can be delivered by a diverse range of mental health, social service, law enforcement, corrections, and private security professionals. Monitoring, unlike supervision, focuses on surveillance rather than control or restriction of liberties; it is therefore minimally intrusive. Monitoring tactics can include contacts with the client, as well as with potential victims and other relevant people (e.g., therapists, correctional officers, family members, co-workers) in the form of face-to-face or telephonic meetings. Where appropriate, they can also include field visits (e.g., at home or work), electronic surveillance, polygraphic interviews, drug testing (urine, blood, or hair analysis), and inspection of mail or telecommunications (telephone records, fax logs, e-mail, etc.). Frequent contacts by the client with health care and social service professionals are an excellent form of monitoring; missed appointments with treatment providers are a warning sign that the client's compliance with treatment and super-

vision may be deteriorating. Plans for monitoring should include specification of the kind and frequency of contacts required (e.g., weekly face-to-face visits, daily phone contacts, monthly assessments). They also should specify any "triggers" or "red flags" that might warn the individual's risk of violence is imminent or escalating.

Treatment involves the provision of (re-) habilitative services. The goal of treatment is to improve deficits in the individual's psychosocial adjustment. Treatment services typically are delivered by health care and social service professionals working at inpatient or outpatient clinics or agencies. In many cases treatment is involuntary, that is, the individual is civilly committed to inpatient or outpatient care under a mental health act. This means that a person is treated in a correctional or forensic psychiatric facility; is ordered to attend treatment as a condition of bail, probation, or parole; or is required to attend assessment or treatment as part of an employee assistance program (Kropp et al., 2002). One important form of treatment is directed at mental disorder that is causally related to the individual's history of sexual violence. Although there is as yet no direct evidence that various treatments for mental disorder decrease violence, it is possible — and even likely — that mental health treatment will have a beneficial impact. Treatments may include individual or group psychotherapy; psychoeducational programs designed to change attitudes toward sexual violence; training programs designed to improve interpersonal, anger management, and vocational skills; psychoactive medications, such as antipsychotics or mood stabilizers; and chemical dependency programs. Another important form of treatment is the reduction of acute life stresses, such as physical illness, interpersonal conflict, unemployment, legal problems, and so forth. Life stress can trigger or exacerbate mental disorder. But it can also lead to transient symptoms of psychopathology even in people who are otherwise mentally healthy. The most effective way to reduce psychological stress is to eliminate the stressor (i.e., stressful circumstance or event). To this end, dispute resolution mechanisms may be helpful, such as referral to crisis management services or legal counselling.

Supervision involves the restriction of the offender's rights or freedoms. The goal of supervision is to make it (more) difficult for the offender to engage in further violence. Supervision services typically are delivered by law enforcement, corrections, legal, and security professionals working in institutions or in the community. An extreme form of supervision is incapacitation, that is, involuntary institutionalization of the offender in a correctional or health care facility. Incapacitation clearly is an effective means of reducing the offender's access to potential victims. It is, however, by no means perfectly effective. The individual may escape or elope from the institution, and also may commit sexual violence against staff or other people while institutionalized. Incapacitation also has other disadvantages. It is expensive; it restricts accessibility to treatment services; and it may promote the development of antisocial attitudes by increasing contact with antisocial peers and by creating a sense of powerlessness or frustration. Community supervision is much more common than institutionalization.

Typically, it involves allowing the individual to reside in the community with restrictions on activity, movement, association, and communication. Restrictions on activity may include requirements to attend vocational or educational programs, not to use alcohol or drugs, and so forth. Restrictions on movement may include house arrest, travel bans, "no go" orders (i.e., orders not to visit specific geographic areas), and travel only with identified chaperones. Restrictions on association may include orders not to socialize or communicate with specific people or groups of people who may encourage antisocial acts or with past or potential victims. In general, supervision should be implemented at a level of intensity commensurate with the risks posed by the offender. This helps to protect the offender's civil rights, and also helps to reduce the liability of people involved in providing supervision services.

Finally, victim safety planning involves improving a (potential) victim's dynamic and static security resources, a process sometimes referred to as "target hardening". The goal is to ensure that, if sexual violence recurs — despite all monitoring, treatment, and supervision efforts — any negative impact on the victims' psychological and physical well being is minimized. Victim safety planning services may be delivered by a wide range of social service, human resource, law enforcement, and private security professionals. These services can be delivered regardless of whether the individual is in an institution or the community. Victim safety planning is most relevant in situations that involve "targeted violence," that is, where the identity of the likely victims of any future sexual violence is known. Dynamic security is a function of the social environment. It is provided by people — the victim and others — who can respond rapidly to changing conditions. The ability of these people to respond effectively depends, critically, on the extent to which they have accurate and complete information concerning the risks posed to victims. This means that good victim liaison is the cornerstone of victim safety planning. Counselling with victims to increase their awareness and vigilance may be helpful. Treatment designed to address deficits in adjustment or coping skills that impair the ability of victims to protect themselves (e.g., psychotherapy to relieve anxiety or depression) may be indicated. Training in self-protection should be considered, such as protocols for handling telephone calls and mail or classes in physical self-defense. Finally, information concerning the individual (including a recent photograph), the risks posed to victims, and the steps to be taken if the individual attempts to approach the victims should be provided to people close to the victims and those responsible for their safety. This information will allow law enforcement and private security professionals to develop proper security plans.

Static security is a function of the physical environment. It is effective when it improves the ability of victims to monitor their environment and impedes individuals from engaging in violence. The risk management plan should consider whether it is possible to improve the static security where victims live, work, and travel. Visibility can be improved by adding lights, altering gardens or landscapes, and installing

video cameras. Access can be restricted by adding or improving door locks and security checkpoints. Alarms can be installed, or victims can be provided with personal alarms. In some cases, it is impossible to ensure the safety of victims in a particular site and the case management team may recommend extreme measures such as relocation of the victims' residences or workplaces.

Sexual Sadism, Erotophonophilia, and Necrophilia

Nature of the Disorders

Sexual sadism, erotophonophilia, and necrophilia are related but distinct forms of paraphilia. The primary sexual stimulus in sexual sadism is the humiliation, control, degradation, or suffering of another person; the participation of the other person may be consenting or coerced (Marshall et al., 2002; Money, 1990). In rare cases, people with sexual sadism may derive sexual gratification from causing death or post-mortem defilement of a corpse (i.e., symbolic humiliation or degradation of another person; see Rosman & Resnick, 1989). Sexual sadism is one of the specific forms of paraphilia included in the *DSM-IV-TR*.

The primary sexual stimulus in erotophonophilia is sexual arousal to the murder of an unsuspecting partner; classically, orgasm is coincident with the death of the victim (Skrapec, 2001). This paraphilia is not included in the *DSM-IV-TR*; it may be diagnosed as a subtype of sexual sadism (Money, 1990) or of Paraphilia NOS.

The primary sexual stimulus in necrophilia is human corpses (Rosman & Resnick, 1989). Secondary or related stimuli include things that that resemble or represent human corpses, either directly or indirectly, such as morgues, cemeteries, cold skin, blue skin tone, closed eyes, the odor of rotting bodies, and disembodied human remains. Necrophilia is related to and may even be comorbid with related paraphilias, including thanatophilia (sexual arousal to death more generally), necrophagia (sexual arousal to consumption of human flesh), and hypnophilia (sexual arousal to sleeping or unconscious humans).

There has been no systematic research on the incidence and prevalence, etiology, or treatment of these disorders.

Risk Assessment and Risk Management

Based on our discussion of sexual violence risk assessments and the role of sexual sadism, erotophonophilia, and paraphilia in these assessments, how can or should evaluators consider information regarding necrophilia more specifically? Although it is impossible to answer this question with any reasonable certainty or in any meaningful detail, it is possible to provide some general guidance for evaluators.

First, evaluators should consider the possibility that offenders suffer from one of these disorders if there is evidence in the case of any of the following: excessive or unnecessary cruelty, either physical or psychological, toward the victim; actual or attempted homicide of people who resemble their preferred sexual objects or with whom they engaged in sexual activity; symbolic or ritualized representations of death; and possession of erotic collateral material with themes of cruelty or death.

Second, when there is evidence to suggest that one of these disorders may exist, evaluators should undertake a full assessment and diagnosis, paying special attention to the principles discussed previously (Section: Assessement and diagnosis of paraphilia). It is worth reiterating that paraphilia cannot be diagnosed solely on the basis of isolated acts. Not everyone who commits a rape, even one involving cruelty, is a sexual sadist; not everyone who kills the victim of a sexual assault is erotophonophilic; not everyone who engages in sexual activity with a corpse suffers from necrophilia. For example, it appears that about 25% of men who kill their intimate partners engage in sexual activity with the victim just before, during, or just after the homicide; in cases of the latter type, the sexual act seems to be motivated more by a desire to express affection or anger toward the victim more than sexual gratification.[3]

Third, if one of these disorders is diagnosed, evaluators should attempt to determine its relevance. A good personalized evaluation or case formulation can reveal the causal role played by sexual sadism, erotophonophilia, or necrophilia in past sexual violence, as well as the role they might play in future sexual violence. With respect to the latter, these disorders are most likely to influence judgments regarding the nature and severity of future sexual violence (i.e., what an offender might do). They may also be relevant to judgments of the likelihood or probability of future sexual violence. This is especially true when assessment indicates the disorder is comorbid with other important risk factors, or is increasing in severity, which should lead to an increase in perceived risk. However, the contrary case is also true. When assessment indicates that symptoms of the disorder have gone into partial or full remission as a function of age or some other factor, this should result in a decrease in perceived risk.

Fourth, if one of the disorders is present and relevant, risk management strategies should be targeted at the factor. Monitoring strategies should focus on the

[3] Over the past 2 millennia there have been anecdotal descriptions of sexual behaviour involving corpses that apparently reflect isolated acts, rather than stable patterns of sexual arousal. Occasional sexual activity with corpses has even been reported in non-human animals, such as birds (e.g., Moeliker, 2001).

entire range of paraphilic symptoms. Ideation and urges can be monitored through personal interviews, reports of conversations with collateral sources, and review of erotic collateral material (e.g., pornography, personal journals and artwork, etc). Physiological activity can be monitored by penile plethysmography, although this would require the construction of special-to-purpose stimuli. Behaviour can be monitored through observation, personal interviews, reports from collateral sources, and review of official records. Because offenders are likely to minimize or deny symptoms of paraphilia, it may be helpful to use polygraphic interviews as an adjunct. Supervision strategies should focus on restricting opportunities for close contact and sexual activity with vulnerable (living) victims, as well as with the corpses of animals or humans. For example, offenders should be given "no go" or "no contact" orders restricting access to or employment associated with morgues, cemeteries, health care agencies, and factories that process live animals for food. Treatment strategies should focus on the use of medications. Behaviour therapy is feasible, although therapists must avoid the possibility of accidental stimulus generalization (i.e., inadvertently associating neutral or appropriate stimuli with death). Given that sexual sadism, erotophonophilia, and necrophilia are likely to disgust even other sex offenders, group therapy appears contraindicated. Victim safety planning would appear to be of little relevance, except when people may search for consenting (i.e., masochistic) sex partners or are at risk for committing homicide to engage in sex.

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Dr. Hart's Discussion

Perkins: You have emphasized the discontinuity between actuarial instruments in relation to risk assessment with sex offending and prescription interventions. How would you incorporate material from actuarial instruments as a starting point?

Hart: Actuarial instruments are useful as they give us lists of known risk markers, some of which may actually be causally relevant in terms of people's sexual violence. Any good formulation would take into account the kinds of things that are included in an actuarial risk assessment instrument but, we have to go beyond that because most of those instruments are designed to be efficient, which is another way of saying they're designed not to include everything that might be relevant. A good formulation has to take into account all the factors that we think are important as well as factors we think are unique or specific to the case. With a relatively small number of risk factors theoretically and empirically – relevant building blocks – we could construct many different formulations of somebody's violence risk or sexual violence risk. That is where I would rely primarily on the empirical sciences, which tell us which things we need to include in our risk assessment. Sometimes we start with a mass of information in a case, and we then deconstruct it into little building blocks that we call factors. But we don't actually know whether they are important in the case. We have to put those little building blocks back together to make something that fits with the client's history and that might tell us about what he might do in the future, against whom, and how bad it might be. That is the process of formulation.

Perkins: How would particular paraphilias figure in the pathway that someone has to sexual homicide. You spoke about operationalizing the kind of individualized assessments we could do with sexual homicide. If there were an instrument or a structured system for capturing information about paraphilias, how would that fit in?

Hart: Let's think about substance use. We evaluate substance use in virtually every case we see. In some cases, we may have a near trivial level of substance use. But epidemiological research would suggest that 75% of our guys have some kind of diagnosable substance abuse or substance use disorder. Does that mean that in 75% of the cases, substance use is an important part of their criminal offending? In what way might it, on its own, play a role in offending or interact with co-factors to generate or cause offending? What amazes me is that, when you go through that process, how many sex offenders you don't need to talk about paraphilias to explain their sexual offending. It's just part of a general anti-social process. They do all kinds of illegal

things, why wouldn't they commit sexual offences occasionally as well? But in some cases you can't actually explain somebody's past violence without reference to a paraphilia because it tells you exactly why they did it, what they were getting out of it, and why they choose those particular victims at that particular time. I don't believe that we have structured the formulation sufficiently that we can give people a really good cookbook. The formulation process is something that can be assisted by consultation with colleagues. I'm always impressed when we sit down at a table and go through a case together and bring out a formulation. People will have all kinds of good questions or comments that allow us to come up with a robust formulation. It's not necessarily the simplest one, but it's one that seems to fit well and we can use it as a basis for going forward. We don't necessarily know whether it's true and we may have to go back and revise it over time as we gather more information and test out our formulation. A structured assessment protocol for paraphilias would really be of assistance in helping us to determine whether a given risk factor is present in a case.

Perkins: Would you say that in assessing cases where we are concerned about the possibility of sexual violence it would be prudent to have, a wide-ranging screen for paraphilias?

Hart: An excellent thing would be to have an assessment instrument that we could pilot, with a large group of sex offenders. We would also want to use it with a big group of non-sexual offenders. Because one of the things we want to discover is how many people might actually have a paraphilia but don't act out on it. That is going to help us understand what role paraphilias might play. However, I must say that the scientific research on epidemiology of paraphilias, is actually quite pathetically limited. We know very little about paraphilias outside incarcerated sex offenders or people who respond to internet surveys. An assessment instrument of this nature would allow us to do some really good epidemiological research in forensic settings, and also in community settings.

Arrigo: It is really getting to the phenomenology of the person's actions and perhaps the question isn't a "why" question, but rather a "how" question. How does a person make sense of the world, how do they live their life, how do they engage other people, and how do they understand social relationships? Maybe it is not a question about truth; it's a question about meaning?

Hart: I'm quite happy to admit that risk assessment has nothing to do with truth. It's not a court of truth, it's a court of law, and we don't do evaluations of truth, we do

evaluations based on the evidence that we have. The key element in risk assessment is our formulation, our narrative of the patient's life, which is going to be useful to the extent that it is also informed by or coherent with the patient's own narrative. In fact, a lot of treatment is actually just trying to get those two different narratives to converge. Sometimes we change our minds and sometimes the patients come to a different understanding. Once we are on the same page, it's much easier to get everybody to take the same actions, to agree to them and, to make sense of them.

Harris: Standardization is necessary in practical correctional assessment, to have everybody singing from the same hymn book. Are there particular tools that you use to standardize your assessments? How do you structure your assessment practically so you make sure you cover all the bases?

Hart: First of all, you never cover all the bases. You never have enough time. All you do is cover the bases that look important. We usually ask questions, we get a few warning signs or red flags and those are the areas we pursue. But if we don't see any reason to go beyond very superficial questioning, we don't. We don't have the time or the resources to do that. I will go through a sexual history, but unless I get an indication that there might be something abnormal, you can't be asking about every kind of paraphilia – "What about those amputation stumps?" There are just too many questions to ask. Part of my recommendation is that we should have the benefit of a reasonably comprehensive standardized clinical interview. Right now, I think we're actually left too much on our own. We actually need a way to ensure that we have an evaluation of multiple domains of functioning.

Harris: I was taken aback by one of your comments last night, we were talking about the prediction of catastrophic events and you used a useful analogy, the possibility of Vancouver dropping off into the sea after an earthquake. You said that nobody's really expecting the seismologists, and the geologists to predict such a thing, but I would suggest to you that should it happen, there will be a very great deal of finger pointing afterwards. That is one of the issues that we deal with on a practical level.

Hart: Yes, I agree. Let me say that CSC is an excellent organization with practice that meets or exceeds that of other agencies internationally. But the best still isn't good enough. I would say that's where we are right now. We have good standards of practice here that still aren't good enough. Planes crash all the time, and I fly. But it's because I actually have some faith in the mechanics and people who make the airplanes.

Proulx: There is a debate about the value of actuarial assessment compared to structured professional judgement. For example, you have a parole officer who must decide if a sexual murderer who has been incarcerated for 20 years now should get out or stay in jail. If you use an actuarial instrument, there is a percentage of risk of recidivism. Or, if you use structured professional judgement, like the SVR-20 you count the number of risk factors. If an offender had 18 of the 20 risk factors you would conclude he had a high score. If he had only 2 or 3 factors you would consider him a low risk. This may be the same conclusion as with an actuarial instrument. My point is, that when you look at structured professional judgement, it is quite similar to an actuarial instrument to conclude that a person is a high risk.

Hart: I'd answer that question three ways. First, remember that actuarial instruments are always constructed with respect to a reference class or reference group. You must have a good reference group or you don't have a good actuarial test. Do we have a reference group of sexual homicide perpetrators? We actually don't know anything about the average sexual homicide perpetrator and his risk after release, because they're not released at random. To me, that says right now you probably can't use actuarial tests for looking at risk for sexual homicide. Second, if we go back to your example, different approaches often consider similar kinds of factors. Third, the difference actually comes when you use them in cases. Everything looks pretty good on average from far away. It's like the impressionist approach to life. As long as you don't get too close, that's great. If you stand close, sometimes you see the imperfections, or you see the brush strokes and the illusion starts to fall apart. This happens with actuarial and structured professional judgement instruments when you look at how they work in individual cases. When you stand close to a case there is often a very dramatic lack of correspondence between the two. For example, if somebody has two or three risk factors on the SVR-20, but one of them is that he says "When I get out, I want to rape another woman", that is enough for me. I don't need to know much else to consider him to be a high risk. Now, does that mean we are going to lock that person up forever? Of course not. It just means we have got enough evidence to trigger considerable intervention in that case. Now we need to figure out what we are going to do, because they're based on what happened in the past, not what is the problem now.

Proulx: With the exception of the STABLE-2000?

Hart: Exactly. The reason why those stable factors are useful is because they consider treatment targets or things that are important for treatment and intervention.

The content of structured professional judgement instruments is chosen to try and guide action rather than prediction. I will give you an example. I saw a fellow not too long ago who had a very high score on the STATIC-99, and he had a long history of sexual offending. He has systemic scleroderma, so his skin is hardening; his connective tissues are calcifying. His hands are frozen, he can't move his hips anymore, he has to walk with a walker. His heart is hardening, his lungs are 50% hardened. This is five years after diagnosis. Within the next five years, he will be dead, and it is just going to get worse between now and then. It's an untreatable condition. He was committed as a sexually violent predator because his STATIC-99 score said he had a 50% chance of recidivism in the next 15 years. But he will be dead in five years. Structured professional judgement instruments are designed to help people think about not what happens on average, but what might be going on in this particular case.

Arrigo: Practitioners find they have limits on how much time they can invest in any one case. You have limits on how much time you have to render a diagnosis. I want to make the argument that there is a political dimension to this and that lack of resources undermines the kind of work you're proposing needs to be done.

Hart: Absolutely. There are times when we simply don't have the resources to do a comprehensive risk assessment. What amazes me is that in those cases you are asked to do it anyway. Actually, you may be asked to do a rather pathetic job. In some cases, we get pressure from our own employers, our own governments to do what we know to be an inadequate job and to pretend that it's a risk assessment. All that does is make us individually liable for the job that we're doing. I tell people that if you don't have time to do one properly, just don't do one. Say you can't, say you weren't given the time. The worst thing you can do is to say, "This doesn't look like a bad case to me. It doesn't look so bad". You have engaged in bad practice when you say it looks like the risk is pretty low when you didn't do a risk assessment. Now you have committed malpractice. The best thing you can do in a situation like that is to say we don't have the resources to do an assessment in this case. The reason I actually got into this particular area of risk assessment was after a case in Manitoba, Sarah Kelley, where there was a fatality review. A forensic psychiatrist had done an evaluation. He had flown into The Pas and it was one hour between the time the plane landed and took off because you couldn't turn the plane off because it was going to freeze. He came in and he saw this offender who'd been morbidly preoccupied with sexual homicides of young children, to the extent that the local probation officer and the local RCMP officer had said, "This guy's going to kill somebody". He had only committed non-violent, coercive sexual touching offences of young kids but he'd actually phoned up a rape crisis line and said "I want to kill a 12 year-old girl so much,

it's more important than living." Now that kind of statement was taken by the probation officer and police officer as a sign of potential risk. The psychiatrist flew in, talked to the guy and left and said, "I didn't see anything that bad". About two months later, he killed a 12 year-old girl. And he said, "I didn't do a risk assessment, I just talked to him, and it didn't look that bad. I said 'I couldn't conclude that he was high risk'. I didn't say that 'he was low risk'." But those things get misinterpreted all the time. When we can't do a proper assessment, we have to tell people and step out of the situation.

Sexual Killers and Post Mortem Sexual Interference Offenders: Assessment, Treatment and Risk Management

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ABSTRACT

Establishing what part a sexual element played in the motivation of a killing and determining whether a killing was sexually motivated is a difficult task for correctional staff responsible for the assessment of sexual killers. When the perpetrator has engaged in sexual assault or non-assaultive behaviour (such as masturbation) following the death, the possibility of necrophilia as a motivating factor needs to be considered. This chapter will review the evidence for psychological treatment needs related to sexual killing and post mortem sexual interference. We used two well known dynamic risk factor tools as a framework to establish treatment needs for sexual killers and post mortem sexual interference offenders. We aimed to establish which treatment needs were potentially relevant to these offenders by examining the extant literature and two relevant data bases. Finally, we considered treatment implementation issues, again drawing on existing literature and our own clinical experience. This chapter concludes with recommendations for best practice and future research.

Sexual Killers and Post Mortem Sexual Interference Offenders: Assessment, Treatment and Risk Management

In this chapter, we aim to identify the treatment needs of Sexual Killers (SKs) and Post Mortem Sexual Interference Offenders (PMSIOs). We then draw on this information to make suggestions about appropriate treatment and management. While rare, SKs are a persistent and aberrant feature of society, surprisingly the extent to which researchers and correctional professionals understand this type of offence is limited. There is not even common agreement on the definition of this behaviour, which is necessary if we are to progress in detection, research, assessment, and treatment.

There are a number of difficulties in establishing that an offence is a sexual killing (Grubin, 1994), starting with problems with the manner in which it is recorded. If the sexual aspect of a crime is not easily recognizable, it can be recorded as "unknown motive" (Folino, 2000). Canada is the only country that specifically records data on sexual killings (Schlesinger, 2004) although there have been concerns that the definition used in Canada's Criminal Code is not broad enough to accurately capture this crime (Roberts & Grossman, 1993). Although these aforementioned difficulties mean that the actual figure could be higher, it was estimated that sexual homicide accounted for 4% of the total homicides in Canada between 1974-1986 (Roberts & Grossman, 1993). In the United Kingdom in 2003, the sexual homicide rate was estimated at 6% of all homicides (Beech, Fisher, & Ward, 2005).

Whatever the actual figure, within Her Majesty's Prison Service establishments holding life sentence prisoners, assessment of potential and actual SKs is a regular occurrence as the vast majority of these offenders can expect to be eligible for parole at some point. Prison staff may have to carry out assessments to determine whether the killing was sexual, often in a context of the offender's denial (Folino, 2000). Assessors must identify the triggers and antecedents to the crime and quite possibly recommend or provide treatment for these perpetrators.

Determining that a Killing is Sexual

When some kind of sexual act is attached to a killing, it is usually deemed a sexual killing (Folino, 2000). The intended or actual sex could be attached prior to, during or after the killing (Porter, Woodworth, Earle, Drugge, & Boer, 2003) and in some cases could occur in two or at all three stages. As well as establishing if and when sex was attached, the motivation for the killing is another clinically important

piece of information to determine if it should be deemed sexual. If a sexual act was intended but not actually carried out, only the perpetrator's openness will tell us that the killing was in fact sexual.

Generally, when there is a fusion of sex and aggression, (i.e. when both occur simultaneously or in very close succession) forensic staff is likely to reach conclusions that a killing was sexual, although the nature of the association between sex and aggression is still extremely varied. Malmquist (1996) suggested a "Working breakdown" of sexual killings. In *rape killings*, the homicide takes place during the course of a "sexual act" and the death is not "part of a ritualized attack". Second, the *lust killer* is "One who has made a vital connection between sexual gratification and violence" (Holmes, 1991, p. 67). In some cases of lust killing, the act of murder becomes "the equivalent of coitus" (p. 174) and replaces actual sexual activity (Podolsky, 1965). Malmquist stated that when a victim or a witness is killed, to help the perpetrator escape detection this should be considered, "*Killings after a sexual act to destroy evidence*". Bartholomew, Milte and Galabally (1975) and Malmquist have questioned whether killings after a sexual act to destroy evidence meets the criteria for a sexual killing. However, West (1987) believed killing to eliminate a witness to rape would count as a sexual killing, although the rationale for this is not provided.

Sadism, the paraphilia most often associated with sexual killing (Brittain, 1970; Dietz, Hazelwood, & Warren, 1990; Langevin, Ben-Aron, Wright, Marchese, & Handy, 1988) is believed to be most prevalent within the lust killing category, as well as perpetrators who engage in post mortem sexual interference acts with the body, including mutilation of sexual body parts. Malmquist (1996) recognised that these headings do not clearly categorise all sexual killings. Distinguishing cases discretely can be problematic as there is so much variation in the manner and type of sexual behaviour, actual or intended that can be attached to the killing. For example, anger on the part of the perpetrator because the victim struck out during a sexual assault could trigger the killing, but the sexual assault itself could have been a sadistic rape. Beauregard and Proulx (2002) used cluster analysis to determine profiles in the offending process of SKs. They used the terms *anger killers* and *sadistic killers* to label the two profiles that emerged from their analysis. Although the anger killers experienced significantly more anger than the sadistic killers prior to the crime, there was some cross-over. Problems with anger could therefore be appropriate treatment targets for offenders from either offence profile. Because sex and killing can be attached in different ways and for different reasons, any definition of sexual killing adopted by staff performing forensic assessments should effectively identify possible cases where there is a sexual motivation or element to the offence. If this is the case, further assessment will often be required to confirm and/or establish the nature of the motivation and the nature of the sexual element.

Definitions

For the purpose of this chapter we have defined SKs as homicide offenders that meet at least one of the following criteria; the perpetrator has disclosed that he had killed with a sexual motive or element to the killing, or there was evidence of sexual behaviour prior to or during the killing, or clothes were disturbed for reasons that could not be explained by simply moving the body[1].

We have defined PMSIOs as homicide offenders whose offence contained at least one of the following characteristics, the perpetrator disclosed that he had sexually assaulted the victim after killing them, there was evidence from a pathologist of post mortem sexual behaviour, the perpetrator had disclosed post mortem sexual behaviour[2], there was evidence of sex with an unconscious or dead victim or the perpetrator disclosed since conviction that they had sexually assaulted the victim after killing them. The criterion, "Police suspected post mortem sexual behaviour" was not included because of the possibility that it would result in an increased number of false cases. Table 1 shows how many cases met the inclusion criteria for PMSIOs from our first data base (See later).

Necrophilia is defined as a sexual attraction to corpses. We wish to emphasise that most PMSIOs are probably not necrophiles. Necrophilia is a sub-set of PMSIO offending. Necrophilia can also occur without a homicide taking place, as in the case of offenders who are employed in capacities that give them access to corpses. In this chapter, we have restricted ourselves to discussing offenders who committed homicide and subsequently sexually interfered with the body. Hence, the uses of the broader term Post Mortem Sexual Interference Offenders (PMSIOs), rather than the more specific term necrophilia.

Within research on SKs, rarely has any distinction been made between SKs who kill to eliminate the only witness to a crime and killers for whom the sex and the killing have a strong association. Despite this lack of distinction, research on SKs to date shows that they share more similarities than differences with other offender groups (Beech et al., 2005; Gratzer & Bradford, 1995; Langevin et al., 1988). On this basis, SKs have been treated alongside non-homicide sexual offenders within HM Prison Service and approximately 50% to 60% of the total number of known sex-

[1] Usually our definition of sexual killing also includes cases where there has been sexual interference or assault following a homicide. Obviously for the purpose of this chapter, we have separated out the offenders who met this criteria into a separate group (PMSIOs).

[2] Behaviour refers to any act committed by the offender that indicates a sexual interest, but that was not a direct sexual *assault* on the body (e.g. masturbating over the body; looking at sexual parts of the body after death).

Table 1. — Cases meeting the inclusion criteria for PMSIO.

PMSIO Inclusion Criteria	*n*	Cumulative *n*
Perpetrator disclosed he had sexually assaulted the victim after killing	19	19
Evidence from pathologist of post mortem sexual behaviour	11	25
Perpetrator disclosed post mortem sexual behaviour	10	28
Evidence of sex with unconscious or dead victim[3]	10	32
Perpetrator disclosed since conviction he had sexually assaulted the victims after killing them	6	34

ual killers within HM Prison Service are believed to have participated in sex offender treatment programs to address sexual aspects of their crimes (Oliver, Beech, Fisher, & Beckett, 2007). Prior to considering the merits of this approach, we will first consider the treatment needs of SKs and PMSIOs.

Identifying the Treatment Needs of SKs and PMSIOs: Information Sources

In the first stage of this chapter, we review the existing literature and our data base information to determine the most likely treatment needs of SKs and PMSIOs. We defined a treatment need as a stable psychological characteristic that appears relevant to the particular type of offending committed. In effect, this is a similar definition to the widely understood concept of a dynamic risk factor. However, the (relatively) small number of SKs and PMSIOs, the low rate of release, and the stringent monitoring that such offenders usually receive, precludes any empirical study large enough to determine whether these psychological characteristics are associated with in-

[3] There was evidence of intercourse post mortem in nine cases and one case where the victim was dead or unconscious.

creased criminal reconviction. Our information sources include a literature review of both types of offending, a data base of the characteristics of 100 SKs, and a data base of psychometric test scores, measuring dynamic risk factors for sexual offending, including data on some of the SKs (n = 19) and PMSIOs (n = 17) in the first data base.

Our first data base holds information coded from 100 life sentence prisoners who met the above definition of a sexual killer (n = 66) or PMSIOs (n = 34). The mean age of the SKs and PMSIOs was 27.9 and 25.3 years respectively. The ages ranged from 16 to 50 years for SKs and 17 to 43 years for PMSIOs. Overall, 55 of the perpetrators' victims were considered to be strangers, while 45 were considered to have known the perpetrator prior to the offence. The victims were all adult females aged 14 years or above. Three of the perpetrators had been convicted of two sexual killings while 97 had been convicted of a single killing. Ninety-one of the perpetrators were born in the United Kingdom, 3 in Europe and 6 elsewhere.

Broadly, the coding criteria looked for the presence or absence of characteristics relevant to the following: childhood and family background of the perpetrator; schooling; experiences of trauma and problem behaviour; adult characteristics of the perpetrator such as criminal behaviour, drug and alcohol use, psychiatric contact, work and relationship status; characteristics of the perpetrator's victim including their living circumstances and relationship to the perpetrator; the offence characteristics, including access to the victim, crime scene information; and post offence information, including apprehension and prosecution. The data collection allowed for additional coding options, such as whether the coder suspected that an item was *possibly* present in the absence of firm evidence. Table 2 shows a summary of factors from this data base reported on in this chapter.

Ten of the 100 cases were selected randomly and scored independently to estimate inter-rater reliability. There were 531 item codings that were considered for each of the ten cases randomly selected. Cohen's kappa was used to determine reliability with Fleiss' (1981) criteria employed to assess the level of agreement. Kappas between .4 and .6 are considered fair, kappas between .6 and .75 are good and kappas above .75 are excellent. The inter-rater agreements ranged from a total percentage agreement of 71.9%, kappa = .46 (fair) to total percentage agreement of 84.2%, kappa = .69 (good). Overall, the cases were split equally between good and fair kappas.

Our second data base held at Her Majesty's Prison Service Headquarters consists of information on all those who have completed a Sex Offender Treatment Program (SOTP). This data base holds SOTP participants' demographic details, offence details, and pre and post treatment psychometric scores. A battery of psychometric measures is administered to all SOTP participants before and after treatment to identify risk factors and monitor progress in treatment. The psychometric scores of all those in the first data base who had completed a SOTP were extracted from this data base.

Table 2. — Childhood, adult and crime factors post mortem sexual interference sexual killers (PMSI SKs) vs. non post mortem sexual interference sexual killers (Non PMSI SKs).

	Sexual Killer Type					
	PMSI, *n* = 34			Non PMSI, *n* = 66		
Variables	**N**	**%**	**CI**	**N**	**%**	**CI**
Attacked victim with sexual intention	14	41.1	24.6-57.7	15	22.7	12.6-32.8
Evidence of paraphilia	8	23.5	9.3-37.8	15	22.7	12.6-32.8
Signs of sexual intention to stab wounds*	1	2.9	0-8.6	7	10.6	3.2-18.0
Sexual intention to cutting/incision wounds and throat cut*	0			8	12.1	4.3-20.0
Evidence of grievance toward females	9	26.5	11.6-41.3	12	18.2	8.9-27.5
Evidence of general grievance	8	23.5	9.3-37.8	11	16.7	7.7-25.7
Married at time of offence and with wife*	3	8.8	0-18.4	17	25.8	15.2-36.3
Single	22	64.7	48.7-80.8	34	51.5	39.5-63.6
Living on own at time of offence	10	29.4	14.1-44.7	13	19.7	10.1-29.3
Used a weapon	9	26.5	11.6-41.3	19	28.8	17.9-39.7
Evidence he took weapon to crime scene*	1	2.9	0-8.6	16	24.2	13.9-34.9
Evidence of suicide or self harm	8	23.5	9.3-37.8	15	22.7	12.6-32.8
Evidence alcohol problem*	17	50.0	33.2-66.8	17	25.8	15.2-36.3
Evidence they were a heavy drinker	5	14.7	2.8-26.6	11	16.7	7.7-25.7
Reports they were a loner, did not socialize	13	38.2	21.9-54.6	27	40.9	29.0-52.8
Considered psychopathic	6	17.7	4.8-30.5	15	22.7	12.6-32.8
Evidence they have suffered a head injury	5	14.7	2.8-26.6	16	24.2	13.90-34.6
Evidence head injury caused lasting damage	0			5	14.7	2.8-26.6
Had psychiatric contact prior to killing*	10	29.4	14.1-44.7	34	51.5	39.5-63.6
Pathologist believed sexual assault possible or likely*	18	52.9	36.2-69.7	22	33.3	22.0-44.7
Death by manual strangulation*	11	32.4	16.6-48.1	9	13.6	5.4-21.9

* $p < .05$

To interpret the psychometric scores of the two groups of interest, we compared the two groups against each other, and also compared them against a "normative" group of low risk offenders as measured by Risk Matrix 2000 (Thornton, Mann, Webster, Blud, Travers, Friendship et al., 2003), untreated, sexual offenders, the vast majority of whom had not committed homicide. The normative group mainly comprised older, incestuous or first-time offenders, without a previous criminal record. This group has limitations as a normative group, but in our view it is meaningful to be able to say on which characteristics a sexual killer, or a PMSIO, differs significantly from the average low risk sexual offender (Thornton et al., 2003). If a sexual killer or a PMSIO scores worse than an average untreated low risk sexual offender

(for the purpose of this chapter, "worse" means more than one half of a standard deviation away from the mean in the undesired direction), it is suggested that this variable may represent a particularly problematic area for that offender[4]. Graphs in Appendix 1 show the average scores for 19 SKs and 17 PMSIOs on a range of psychometric measures, compared to the average score for 644 adult male (mean age 48.6 years) low risk sexual offenders. This low risk group is treated as the normative group for comparison purposes. On the graphs, the normative scores for each psychometric measure are converted to Z scores and then standardized so that 50 is always the mean score of the normative group for each measure, and each 10 points away from the mean represents one standard deviation. For comparison purposes, medium, high and very high risk offenders' mean scores are also provided.

When discussing treatment recommendations, we have also drawn heavily on our experience in treating SKs, both in standard sex offender programs where they are mixed with non-homicide offenders, and in a specialist sexual murderer treatment unit (Clarke & Carter, 2000).

Treatment Needs of SKs and PMSIOs

As a framework for our information review, we chose to search for evidence of the widely accepted dynamic risk factors for sexual offending as outlined by the two most well-known dynamic risk factor tools: SARN (a variant of Structured Risk Assessment; Thornton, 2002) and STABLE-2000 (Harris & Hanson, 2000). During the course of our information review, several additional potential treatment needs emerged. In the review that follows, terminology from both SARN and STABLE-2000 has been adopted (these are generally heavily overlapping systems but which use slightly different language) in order that our conclusions may be accessible to staff working in both British and Canadian jurisdictions.

Sexual Preoccupation

Sexual killers

There is little direct reference to sexual preoccupation in the literature on sexual killing. Prentky, Burgess, Rokous, Lee, Harman, Ressler et al. (1989) found that 25% of the serial killers they studied disclosed compulsive masturbation. In addition, an interest in pornography has been found in a number of SK studies. Dietz

[4] It has been established through a series of validation studies that as risk increases psychometric scores on each of our risk-related measures reflect this change in risk.

et al. (1990) reported that 53% of their sample of sadistic offenders, which included SKs, kept pornography and 27% bondage items. Ressler, Burgess, Hartman, Douglas and McCormack (1986) reported frequent use of pornography by 38% of their sample of SKs, who were predominantly serial perpetrators, while 81% maintained some interest in pornography. This high pornography use could be indicative of sexual preoccupation. Blanchard (1995) reported that sexual preoccupation was one of the topics that frequently came up in his interviews with SKs. MacCulloch, Snowden, Wood and Mills (1983) reported a "substantial increase in masturbatory activity" (p. 25) when sadistic offenders in their sample, including SKs, switched from non aggressive fantasies to those of a sadistic nature. Briken, Habermann, Kafka, Berner and Hill (2006) investigated the relevance of paraphilia related disorders (PRDs) in a sample of 161 SKs. They looked for the presence of compulsive masturbation, promiscuity, pornography/telephone dependence or severe desire incompatibility[5]. Using these criteria, they found PRDs to be present in just over half their sample. In addition, those SKs who were considered to have paraphilias as well as PRDs were significantly more likely to be given a diagnosis of compulsive masturbation and pornography dependence than SKs with only paraphilias.

Unfortunately we do not have the relevant psychometric data on this variable. The relevant psychometric scale, the Sexual Preoccupations subscale of the Multiphasic Sex Inventory (MSI, Nichols & Molinder, 1984), was introduced into our test battery after our current sample underwent assessment. In summary, the literature indicates that sexual preoccupation is evident, by the presence of PRDs, for a proportion of SKs, particularly if they have a diagnosis of paraphilia. Sexual preoccupation would seem to be a treatment need for a sub-set of SKs.

Post mortem sexual interference offenders

The literature notes that hypersexuality is a feature of some PMSIOs (Dimock & Smith, 1997). Similarly, Rosman and Resnick (1989) gave the example of "the need to perform limitless sexual activity" as a "less commonly reported motive" for sexual interference with a corpse. Unfortunately, as described above, we do not have the relevant psychometric data on this variable. With little hard data, it is not possible to conclude that sexual preoccupation is clearly a feature of PMSIOs. We therefore advocate that this issue continue to be explored.

[5] Disturbance within intimate relationships arises from one person making sexual demands on the other as a result of extreme sexual desire (Kafka, 2000).

Sexualized Violence including Sadism

Sexual killers

As stated earlier, sadism is the paraphilia most often associated with SKs. MacCulloch et al. (1983) established that 81.3% of the 16 psychopathic, personality disordered patients (seven of whom had killed) in a special hospital had formed fantasies that matched all or some elements of the index offence. Both at the time of the offence and preceding it, the patients had typically "been masturbating to fantasies of sequences of behaviour which included rape, flagellation, anaesthesia, torture and killing" (p. 23). Five of the 13 cases who formed these sadistic fantasies killed their victim. Brittain (1970) proposed that cruelty causes excitement for SKs, and could be drawn from sources such as books or fantasy. A release of sexual pressure is the goal of the great "sexual emotion" they glean from this excitement. Briken et al. (2006) found that sexual sadism (using DSM-IV criteria) was the most prevalent paraphilia (37.3%) in a sample of 161 SKs. Langevin et al. (1988) reported significantly higher rates of sadism (from puberty or earlier) among 13 SKs when compared to a group of 13 sexual aggressors who had not killed or a group of 13 non-sex killers. In addition, they found that phallometric testing indicated sadism for sexual killers at a greater rate than in these comparison groups. Firestone, Bradford, Greenberg and Larose (1998) reported significantly greater levels of sadism, using DSM diagnosis, in their sample of 17 homicidal child molesters compared to 35 child molesters who had not killed. Yarvis (1995) found that his group ($n = 10$) of rapist/murderers had "an extraordinarily high prevalence of sexual sadism" (p. 418) in comparison to murderers and rapists.

Our sexual killer data base indicated that 41.2% of non-PMSIO sex killers had attacked their victim with what seemed to be a sexual intention[6], as opposed to 22.7% of PMSIO SKs. Signs of sexual intention to stab wounds[7] and sexual intention to cutting/incision[8] wounds for non-PMSIO sex killers were 10.6% and 12.1% respectively as opposed to 2.9% and 0% respectively on these items for PMSIO.

Strangulation has been associated with sadism. Schlesinger (2004) proposed, "The primacy of strangulation in sexual homicide, previously reported by

[6] This is where they attacked the victim for a reason other than panic or loss of temper and on balance there seemed to be a sexual motive (e.g. "After watching porn and drinking (he went out) and attacked and raped her" or "I was feeling powerful, I wanted sex and wanted to kill her").

[7] Coded when stab wounds were not functional to kill the victim.

[8] Coded as present if cuts were in a pattern of some kind, particularly around the breasts, buttocks or genitalia.

Revitch and Schlesinger (1989), occurs because the offender can "control" the length of time necessary to cause death and concomitantly increase his gratification" (p. 239). Our data base showed that SKs took the lives of their victims by ligature or manual strangulation 37.9% of the time, although strangulation was involved in 61.6% of cases. Unfortunately we do not have relevant psychometric data on this variable. The relevant psychometric sub-scales from the Multiphasic Sex Inventory (MSI, Nichols & Molinder, 1984) were introduced into our test battery after our current sample underwent assessment. In summary, although formal diagnosis has not always been employed, sadism has been shown to be present in a number of studies of SKs and would seem to be a common feature for a large number of SKs.

Post mortem sexual interference offenders

Sadism is usually taken to refer to a sexual interest in causing pain or humiliation to others. It could therefore be argued that sadists require a living victim in order to gain sexual pleasure, as a dead victim no longer experiences pain or humiliation. Sexualized violence is a somewhat broader term, referring to the capability for sexual arousal in the context of violence. The question of whether or not PMSIOs are likely to be sadistic has been said to be a "topic of considerable disagreement" (Hucker & Stermac, 1992, p. 243). It seems that true necrophiles are not necessarily likely to be sadistic – in fact, they often choose to hug, fondle, kiss and sleep with their victims. However, some true necrophiles have been reported to show sadistic features. Rosman and Resnick (1989) reported on the largest study to date of PMSIOs. In their sample 52% of the true necrophiles were thought to be sadistic. Non-necrophiliac PMSIOs are probably more likely to be sadistic. Such offenders have been termed "necrosadists", "lust murderers", or "erotophonopiliacs" (Purcell & Arrigo, 2006). But even non-necrophiliac PMSIOs are not necessarily sadistic – this group also includes opportunistic offenders and those with a transitory attraction to a corpse.

Our data base showed that PMSIOs killed their victim through ligature or manual strangulation 50.0% of the time and strangulation was involved in the offence 73.5% of the time. If strangulation is indeed an indicator of sadism, this suggests a high proportion of PMSIOs are likely to have sadistic interests. In summary, sadism is probably present in a sub-set of PMSIOs, but PMSIO may also occur because of true necrophilia, opportunism, or transitory attraction to a corpse. Obviously it is a particular challenge in any individual case to ascertain whether sadism – defined as long-standing presence of masturbatory fantasy about violence, killing, pain, fear and humiliation – is a feature of the PMSIO.

Other Offence-Related Sexual Interests (paraphilia)

Sexual killers

SKs have been reported to suffer from multiple paraphilias. Brittain (1970) described how the sadistic killer often had a history of voyeurism and cross-dressing. A paraphilic interest in peeping, obscene phone calls or indecent exposure has been found in a number of studies of sadistic offenders whose samples have included SKs. Dietz et al. (1990) reported paraphilic interest in 20.0% of their sample, Gratzer and Bradford (1995) reported 42.0%, while Warren, Hazelwood and Dietz (1996) indicated 45.0%. Langevin et al. (1988) reported voyeurism in 54.0%, exhibitionism in 23.0% and toucherism and frottage, in 31.0% in their sample of 13 SKs. Ressler et al. (1986) reported a predominance of voyeurism (71.4%) as well as autoerotic practices (78.6%) in their sample of serial SKs. Two studies noted the presence of known cross-dressing; Dietz et al. reported 20.0% and Gratzer and Bradford, 39.8%. Firestone et al. (1998) found that 22.9% of their sample of homicidal sex offenders displayed atypical paraphilias and paedophilia. Briken et al. (2006) reported that just over half of their sample of SKs showed evidence of DSM-IV paraphilia. In our SK data base, we observed that both non-PMSIO SKs and PMSIO SKs had reported rates of about 23.0% evidence of paraphilia[9]. In summary, paraphilia would seem to be a treatment need for a small sub-set of SKs.

Post mortem sexual interference offenders

True necrophilia is defined as a Paraphilia not otherwise specified in DSM-IV-TR. That is, necrophilia is recognized as a paraphilia in its own right, but does not come to professional attention often enough to warrant full diagnostic criteria. Other than sadism the literature does not associate any other particular paraphilia with PMSIO. PMSIOs who reveal a conscious, long-standing, sexual attraction to corpses are few. Even among non-sadistic PMSIOs who have full intercourse with corpses, Rosman and Resnick (1989) reported more common motives for PMSIO being intimacy or reunion with the victim. These motives might be classified as involving transitory rather than longstanding attraction to corpses. In conclusion, paraphilia in the form of necrophilia could be considered a treatment need for a sub-set of PMSIOs.

[9] The codings were not based on information of formal diagnosis of paraphilia but evidence indicating this could be the case (e.g. self-report or convictions for peeping).

Hostility toward Women (adversarial sexual beliefs; beliefs that women are deceitful)

Sexual killers

In terms of motivation for sexual killing, hostility toward women has often been suggested as a risk factor (Langevin et al. 1988). Brittain (1970) described how the sadistic murderer, "has a fear of adult contacts, both social and sexual, and some even have an active hatred of all women" (p. 200). The research to date would not however suggest that hostility toward women is predominant for all SKs. Langevin et al. found more of the SKs in their sample were angry at the world (38.0%) than at women specifically (23.0%). Beech et al. (2005) found that 79.0% of the 28 SKs they studied showed evidence of having a *dangerous world* implicit theory (or schema) whereby they see the world as dangerous and react to this by being dominant and chastising those they perceive to have caused them harm. A sub-group of these perpetrators ($n = 8$) who were characterized as subscribing to this schema, generally "Reported that their motivation to offend was grievance driven because of anger and resentment toward women" (p. 1381).

In our sexual killer data base, 18.2% of the non-PMSIOs SKs were coded as having evidence of grievance toward females (compared to 26.5% of PMSIOs). Our psychometric data showed that SKs' average score on a scale measuring the extent to which women are seen as deceitful was close to the normative score for low risk sexual offenders. In summary, although the psychometric data did not indicate SKs see women as deceitful, considering the indications from other sources of information, hostility toward women would seem to be a possible motivation for sexual murder and hence, a treatment need for a small sub-set of SKs.

Post mortem sexual interference offenders

Holmes (1991) reported that "many necrophiliacs are insensitive to others and have a great hatred for women" (p. 60) although no data were given in support of this assertion. Our psychometric data showed that PMSIOs' average score on a scale measuring the extent to which women are seen as deceitful was close to the normative score for low risk sexual offenders. As mentioned above, PMSIOs were more likely to have been coded as having evidence of grievance toward women than were SKs (26.5% compared to 18.2%). We suggest this is an area worthy of further study.

Sexual Entitlement

Sexual killers

There is little reference to sexual entitlement in the literature on SKs. One notable exception is Beech et al. (2005), who found that 43.0% of their sample of 28

SKs ascribed to entitlement implicit theories. The concept of entitlement included believing they could procure sex on the basis they were male but was not limited to entitlement thinking in the sexual arena. Our psychometric data did not show sexual entitlement to be a notable feature of SKs compared to a normative mean score for low risk sexual offenders. Currently this would not appear to be a feature of SKs, although given the finding by Beech et al., general entitlement thinking would warrant further exploration with larger sample sizes.

Post mortem sexual interference offenders

Sexual entitlement has not been reported as a relevant issue for PMSIOs in the literature. Our psychometric data did not show sexual entitlement to be a notable feature of PMSIOs when compared to low risk sexual offenders in general.

Personal Inadequacy

Sexual killers

Brittain's (1970) clinical description of the sadistic murderer painted the picture of a rather pitiable individual, distinct and remote from others who suffered insecurity and perceived himself inferior, including sexually inferior to other men and unable to relate to people. Blanchard (1995) found that the SKs he interviewed described beliefs that were a variant of those proposed by Carnes as being evident for almost all "sex addicts" and included, "I am basically a bad, unworthy person" and "No one would love me as I am" (1983, cited in Blanchard, 1995, p. 64). It is not clear how many of the SKs that Blanchard interviewed could be considered serial killers. Schlesinger (2004) provides case examples of *acute catathymic*[10] sexual killings "triggered by sexual inadequacy" (p. 138). Grubin (1994) found that 34.0% of the 21 SKs he studied had experienced a recent loss of self-esteem prior to the killing.

In our psychometric data base, the SKs revealed self-esteem scores that were very close to the medium risk sex offender group. This construct includes feeling ashamed and unhappy about yourself. However, the mean score was not at a level where it would be considered a problematic feature of SKs. The SKs also revealed significantly greater emotional loneliness at the time of the offence. This construct included feeling that no-one shares or understands your feelings or values your worth

[10] "In acute catathymic homicides, superficially integrated individuals who secretly struggle with strong feelings of inadequacy, primarily sexual inadequacy, resort to violence when victims challenge their sense of integrity, adequacy or sexual competence" (Schlesinger, 2004, p. 138).

as a person. On this measure, the SKs' scores were significantly higher than the low risk sex offender group norm. Taken together, personal inadequacy would seem to be a treatment need for a sub-set of SKs.

Post mortem sexual interference offenders

Schlesinger (2004) presented compelling case examples that illustrate this feature of PMSIOs. In one case, an offender who felt inadequate and angry at being taunted by a victim could only penetrate her once she was lifeless. Another offender is described as having "dominant features of insecurity, inadequacy, and low self-esteem... tremendous self-hatred and inferiority ... and [a fear] of appearing stupid to others" (p. 141). Tardif, Daaylva and Nicole (2007) also presented a PMSIO case example with strikingly similar features, who's "life was a constant stream of frustration, stemming from conflict with women, low self-esteem and feelings of rejection". This offender first killed "when a prostitute with whom he was to have sex ridiculed him in front of a taxi driver, calling him an easy client" (p. 226). In further support of the potential relevance of this psychological feature of PMSIOs, Rosman and Resnick (1989) reported that 12.0% of their true necrophiles were attempting to gain self-esteem by expressing power over a homicide victim.

In our psychometric data base, the PMSIOs did not reveal particularly low self-esteem, but they did report significantly greater emotional loneliness at the time of their offence than the average untreated low risk offender. This construct includes feeling that no-one shares or understands your feelings or values your worth as a person. On this measure, the PMSIOs' scores were almost one standard deviation above the low risk sex offender group norm, and were in fact higher than the very high risk sex offender group mean. This represents a very elevated score for emotional loneliness suggesting that this is a significant problem for PMSIOs. Taken together, this would indicate that personal inadequacy is a treatment need for a sub-set of PMSIOs although further research is needed to establish if it is relevant to the majority of these perpetrators.

Grievance Thinking (negative emotionality)

Sexual killers

Brittain (1970) described the clinical features of the sadistic murderer whose inadequacies were evident from his poor ability to relate socially to others. This left him feeling insecure and set apart from people. He frequently experienced impotency on the occasions he did have sexual relationships with the opposite sex. Grubin (1994) found that SKs were significantly more likely to "bottle up" their anger "before exploding, perhaps reflecting a tendency for overcontrol" (p. 625). Beech et al. (2005) found that

grievance was the principal motivation for a minority of the 28 SKs in their study (28.6%), stemming from feelings of anger and resentment toward women. Our data base showed that 16.7% of the non-PMSIOs were coded as having evidence of general grievance compared to 23.5% of PMSIOs SKs. In summary, grievance thinking would seem to be a relevant treatment need for a small sub-set of SKs.

Post mortem sexual interference offenders

Grievance thinking has not been reported as a relevant issue for PMSIOs in the literature. Our psychometric data did not show negative rumination to be a notable feature of PMSIOs compared to low risk sexual offenders in general.

Lack of Emotional Intimacy (intimacy deficits)

Sexual killers

Brittain (1970) described the sadistic killer as socially isolated and sexually inexperienced. The scarcity of social and sexual contact with their gender of preference was pronounced in eight of the 13 SKs in Langevin et al.'s (1988) study. Grubin (1994) found that SKs were significantly less likely to have had intimate relationships with women, and were significantly more likely to have had no sex partner in the year of the offence than a comparison group of rapists who had not killed. Oliver et al. (2007), reported that sexual murderers ($n = 58$) were significantly less likely to be in a relationship at the time of the offence than a comparison group of rapists ($n = 112$). In addition to this, Briken et al. (2006), reported that only 26.7% were in a partnership at the time of the killing ($n = 161$) and a further 72.1% had never married.

In our data base, only 25% of SKs were coded as being married and with their wife at the time of the offence and a further 19.7% were living alone at the time. In addition, 51.5% were coded as being single, having never married or not having had a relationship lasting more than two years. In summary, lack of emotional intimacy would appear to be a treatment need for SKs.

Post mortem sexual interference offenders

There are some suggestions in the literature that this variable may be of relevance for this group. Rosman and Resnick (1989) reported that "the most common motive of true necrophiles was to possess an unresisting and unrejecting partner" (p. 158), with the second most common motive being reunion with a romantic partner (e.g. a man who has intercourse with the body of his deceased wife). Burg (1982) noted a number of cases who had undergone a serious rejection experience in early life, and suggested this could lead to the reasoning that a dead sexual partner "could not object to my company" (Brill, 1941, as cited in Burg, 1982, p. 246).

In our sexual killer data base, we observed that only 3 (8.8%) of the PMSIOs were married at the time of their offence, compared to 17 (25.8%) of the non-PMSIO SKs. In addition, 64.7% were coded as never having been married or lived with someone for at least two years. In our psychometric data base, the PMSIOs did report significantly greater emotional loneliness at the time of their offence than other groups. This construct includes feeling that no-one shares or understands your feelings or values or your worth as a person. On this measure, the PMSIOs scores were almost one standard deviation above the low risk sex offender group norm, and were in fact higher than the very high risk sex offender group mean. Furthermore, PMSIOs reported significantly lower levels of empathic concern for others, and poorer perspective taking, than low risk sexual offenders in general. On both measures, the PMSIOs showed more problematic scores than the very high risk sexual offender group. Taken together, these scores indicate quite severe problems with the kinds of traits that enable positive social or intimacy experiences.

Lifestyle Impulsiveness (general self-regulation problems)

Sexual killers

Although Ressler, Burgess and Douglas (1988) described an organized and disorganized sexual killer, the latter acting "impulsively under stress, finding a victim usually within his own geographic area" (p. 130), impulsiveness has not otherwise been reported as a relevant issue for SKs in the literature. Grubin (1994) reported no significant differences on a measure of impulsivity between SKs and rapists who had not killed. In addition, he did not report that this was a factor that characterized SKs.

The sexual killer data base showed that SKs used a weapon 28.8% of the time and of these, 84.2 % brought the weapon with them. While this could be an indication that the majority of perpetrators did not premeditate their crimes, it is also possible that there was another explanation (e.g. they favoured strangulation and could use either their hands or a ligature found at the crime scene). In summary, while impulsiveness would warrant further research, currently this would not seem to be a particular treatment need for SKs.

Post mortem sexual interference offenders

Lifestyle impulsiveness has not been reported as a relevant issue for PMSIOs in the literature. Our psychometric data did not show impulsivity to be a notable feature of PMSIOs compared to low risk sexual offenders in general, but they were significantly more impulsive than the non-PMSIO SK. The sexual killer data base indicated that the PMSIOs were very unlikely to have premeditated their homicide,

with only 2.9% of PMSIOs taking a weapon to the crime scene, (compared to 24.2% of the non-PMSIO SKs) although, as discussed above, there could be another explanation for this. In summary, on current evidence this would not seem to be a treatment need for PMSIOs.

Poor Cognitive Problem Solving

Sexual killers

This has not been reported as a relevant issue for SKs in the literature. In our sexual killer data base, we observed similar rates of evidence of suicide or self-harm for non-PMSIO SKs and PMSIO SKs (22.7% and 23.5% respectively). In summary, poor problem solving would benefit from further research. At present it is possibly a treatment need for a small sub-set of SKs.

Post mortem sexual interference offenders

Dimock and Smith (1997) noted alcohol abuse as a recurring feature of many PMSIO case studies. Other than this, there has been little discussion in the literature about poor problem solving in PMSIOs. Unfortunately in our psychometric data base there was not a measure of problem solving ability. However, we observed that 50.0% of the PMSIO group had been coded as having an alcohol problem, compared to only 25.0% of the non-PMSIO SKs. If alcohol abuse is considered an indicator of poor problem-solving, this would indicate that PMSIOs may well have deficits in this area although this area would benefit from further research.

Poor Emotional Control

Sexual killers

Revitch (1965) proposed that acts of sadism were typically carried out by "either overt or latent psychotics with poor control and explosive breaks with reality" (p. 644) and as mentioned above, Grubin (1994) suggested that explosions of anger followed over-control of anger. Langevin et al. (1988) suggested that the numerous suicide attempts identified in their sample of SKs indicated unstable emotions. Schlesinger (2004) proposed that in catathymic crisis homicides, the "victim triggers underlying emotionally charged conflicts" (p. 137).

The psychometric data base revealed that SKs' scores on a measure of impulsivity were almost two standard deviations below the low risk sex offender norm. Taken together, it would appear that the emotional control pattern for a sub-set of SKs seems to be typically over-controlled, with intermittent explosive outbursts.

Post mortem sexual interference offenders

This has not been specifically identified as a relevant issue for PMSIOs in the literature. However, the case studies cited above (see personal inadequacy section) suggest that, in a context of self-hatred, certain rejection experiences can trigger an overwhelming tide of emotion and in this state of mind a post mortem sexual interference offence can be committed. Our psychometric data base did not contain a measure of emotional control although it indicated that PMSIOs scores on a measure of impulsivity were not problematic when compared with low risk sexual offenders. It is not possible to conclude whether or not emotional dysregulation is a feature of PMSIOs and this area would benefit from further research, but their general apparent lack of premeditation, not apparently explained by impulsivity, indicates that emotional dysregulation should remain a credible hypothesis.

Social Isolation (general social rejection/loneliness)

Sexual killers

Social isolation has been identified as a characteristic of SKs in a number of studies. Grubin (1994) identified both social and emotional isolation across the lifespan as distinct features of a sexual murder group in comparison to a group of adult rapists. Milsom, Beech and Webster (2003) reported that SKs had significantly higher levels of loneliness during adolescence compared to a group of adult rapists. MacCulloch et al. (1983) found evidence that a group of sadistic offenders, including SKs, had difficulties "relating" to their favoured sex from early childhood. Compos and Cusson (2007) found that about half of the SKs in their study ($n = 41$) reported social isolation during adulthood (46.7%). Kennedy, Hoffman and Haines (1947) examined the case of serial killer William Heirens and found he experienced loneliness as a child. The data base showed that 38.2% of non-PMSIO were considered loners who did not socialize. Taken together, it would seem that social isolation is a feature of SKs.

Post mortem sexual interference offenders

This has not been addressed in the literature to date. In our data base, 40.0% of PMSIOs were considered loners who did not socialize. We discuss elsewhere that PMSIOs lack some of the essential skills for successful relationships, such as perspective taking and concern for others. On this basis, we suggest that social isolation is an area worthy of further consideration.

Lack of Concern for Others

Sexual killers

Langevin et al. (1988) found that five of the 13 SKs in their study failed to convey any feeling for their victim, while five did express feelings of guilt (the re-

mainder expressed self concern or felt positive about the offence). One killer reported feeling positive about the sense of achievement he got from committing the crime. Tardif et al. (2007) emphasized the ability of sadistic murderers to dehumanise their victims. Marshall and Hucker (2006) described the same feature. Both Tardif et al. (2007) and Marshall and Hucker (2006) concluded that a major treatment target for sadists is to increase the extent to which they see other people as fellow human beings.

In our psychometric data base, SKs reported significantly lower levels of empathic concern for others than the low risk sex offender norm suggesting this may be a problematic area for SKs. Taken together, lack of concern for others would appear to be a feature for a large sub-set of SKs and an important target for treatment although it would benefit from further research in this area with larger sample sizes.

Post mortem sexual interference offenders

This has not previously been reported as a relevant issue for PMSIOs. As noted above, PMSIOs reported significantly lower levels of empathic concern for others, and poorer perspective taking, than low risk sexual offenders in general. On both measures, the PMSIOs showed more problematic scores than the very high risk sexual offender group. Lack of concern for others is therefore credibly hypothesized to be a treatment need for some PMSIOs.

Psychopathy

Sexual killers

The literature suggests that psychopathy is a feature of SKs (Langevin et al., 1988; MacCulloch et al., 1983). Brittain (1970) described a number of characteristics of the sexual killer that could be considered psychopathic traits (e.g. he does not regret his offences, emotionally flat, and does not show emotions about his offences). However, Proulx and Sauvêtre (2007) rightly warn, "the few empirical studies that suggest that sexual murderers are psychopaths all suffer from methodological limitations" which include "psychometric instruments that are inadequate for the comprehensive evaluation of psychopathy" (p. 55). Firestone et al. (1998) found that sexual homicide offenders had significantly higher levels of psychopathy, as measured by the Psychopathy Checklist Revised (PCL-R, Hare, 1991) than non-homicidal child molesters (total score of 28.7 and 16.6 respectively), particularly on factor 1, which rates interpersonal and affective functioning (12.8 and 7.9). Porter et al. (2003) rated the majority (87.7%) of their sample of SKs as "moderate to high" on the PCL-R (where moderate was 20-29 and high 30 and above). They concluded that, "Not only are psychopathic offenders disproportionately more likely to engage in sexual homicide, but, when they do, they use significantly more gratuitous and sadistic violence" (p. 467).

The sexual killer data base indicated that 22.7% of non-PMSIO SKs were considered psychopathic as opposed to 17.7% of PMSIO SKs[11]. While further research is needed to replicate Porter et al.'s (2003) findings, particularly within the UK, taken together these studies indicate that psychopathy is a feature of a sub-set of SKs.

Post mortem sexual interference offenders

This has not been reported as a relevant issue for PMSIOs in the literature. There are no data on levels of psychopathy found in PMSIOs and this area requires research.

Brain Damage

Sexual killers

Langevin et al. (1988) found abnormalities in 40.0% (n = 10) of their SKs where killing was combined with sexual excitement. These abnormalities were generally in the right temporal horn 30.0% (n = 10). While this finding is consistent with a study of sadists (Hucker, Langevin, Dickey, Handy, Chambers, & Wright, 1988), these are small proportions within a very small sample of SKs. Further work is needed to establish if brain abnormalities contribute to either sadism (Proulx, Blais, & Beauregard, 2007) or sexual killing per se. Briken, Habermann, Berner and Hill (2005) analysed 166 SKs psychiatric court reports and found that 30.0% of these men had evidence of *heterogeneous brain abnormalities*. The findings also revealed that those SKs with brain abnormalities experienced more behavioural problems in childhood and were diagnosed with a greater number of paraphilias then SKs without brain abnormalities. They concluded that the findings, "Suggest the importance of a precise neurological and psychological examination of this specific offender group not only to evaluate responsibility but also for treatment and risk assessment" (p. 1207).

Among the 24.2% of SKs that suffered a head injury during childhood, 14.7% showed evidence of this having caused lasting damage. Taken together, brain damage would appear to be a feature for a sub-set of SKs although more research is needed to clarify what kind of brain damage.

[11] Based on reports that a psychiatrist believed that an individual was psychopathic and not necessarily using standardized psychopathy assessments.

Post mortem sexual interference offenders

This has not been reported upon in the literature on PMSIOs and requires further research.

Personality Disorder

Sexual killers

SKs have been found to have narcissistic features (Brittain, 1970; Dietz et al., 1990), schizoid, (Brittain, 1970), borderline (Geberth & Turco, 1997) and antisocial personality disorder and have been found to be distinguished from *non sex killers* and *non-homicidal* sexually aggressive men on the basis of antisocial diagnosis (Langevin et al., 1988). Yarvis (1995) found evidence of antisocial personality disorder in 90.0% of the rape/murderers in his study. Proulx and Sauvêtre (2007) reported "anti-social (35.7%), borderline (28.6%) and narcissistic (25%) disorders" (p. 60) in a sample of 40 non-serial sexual killers. They suggested that overlap between anti-social personality disorder, narcissism and psychopathy should be noted (Proulx & Sauvêtre, 2007). In summary, personality disorders could be relevant for a sub-set of SKs.

Post mortem sexual interference offenders

Rosman and Resnick (1989) reported that 56.0% of their total sample of PMSIOs had been diagnosed with a personality disorder. Of the sub-groups of PMSIOs who had killed, over 80.0% had been diagnosed with a personality disorder. Unfortunately Rosman and Resnick did not report the nature of the personality disorders diagnosed. While this would seem to be a relevant treatment need for a sub-set of PMSIOs, it would benefit from further research.

Treatment Need Analysis Conclusions

There are limitations to the data used in this study. The retrospective nature of the information, that the data had been collected with reliance on files containing reports and entries that are not consistently written, and that the inter-rater reliability of the report writers was unknown (Briken et al., 2006). The information used in the second data base is from a small sample and, as commented upon previously, there was an absence of relevant psychometric scales for some of the variables considered. While a warning on the methodological limitations of the data collection is warranted, we are able to reach preliminary conclusions about the treatment needs of these two types of killers.

Sexual killers

The main treatment needs that emerged from our multiple information sources were:

- Sadism
- Personal inadequacy
- Lack of emotional intimacy
- Social and emotional isolation

In some cases, sexual preoccupation, paraphilias, hostility toward women, grievance thinking, poor emotional control (overcontrol with intermittent outbursts of anger), brain damage, personality disorder and entitlement thinking may additionally be an issue.

Some areas that appear to be treatment needs but would benefit from further research were:

- Poor problem solving
- Lack of concern for others
- Psychopathy[12]

Potential treatment needs have been inadequately researched and information was not available in our data base. These include:

- Sexual entitlement
- Lifestyle impulsiveness
- Grievance thinking

Post mortem sexual interference offenders

The main treatment needs that emerged from our multiple information sources were:

- Lack of emotional intimacy
- Poor emotional control
- Low concern for others and poor perspective taking ability

In some cases, additionally or alternatively, sexual preoccupation, and necrophilia may be an issue.

Some areas that appear to be treatment needs but would benefit from further research were:

- Sadism
- Sexual preoccupation
- Extreme personal inadequacy (self-hatred)
- Necrophilia and other paraphilias

[12]Although this should arguably be considered a responsivity issue rather than a treatment target.

- Poor cognitive problem solving
- Lack of concern for others
- Personality disorder

Some potential treatment needs have been inadequately researched and information was not available in our data bases. These include:

- Hostility toward women
- Social isolation
- Psychopathy
- Brain damage[13]

Oliver, Beech, Fisher and Beckett (2007) proposed that future research to determine differences between rapists and sexual murderers on dynamic risk factors could, if they were to be identified, require changes to treatment approaches for SKs. We would propose that there already exists a basis to amend existing programs for sexual offenders to make them more applicable to SKs. These changes are needed along with an emphasis on staff training, implementation, integrity and support issues.

Treatment Involvement

The existing literature is minimal and divided. Tardif et al. (2007) pointed out that "current sexual offender treatment programs have not been developed with sexual murderers in mind" (p. 222) and concluded that "There is a real danger in extrapolating positive treatment results from other groups of sexual offenders to sexual murderers". On the other hand, Beech et al. (2005) reported quite considerable benefits observed in sexual murderers who participated in Her Majesty's Prison Service's Sex Offender Treatment Program alongside non-homicidal sexual offenders[14]. In addition, Beech et al.'s (2005) study of sexual murderers' implicit theories (ITs) reported, "The finding that no new and distinct ITs were found in the sexual murderers" indicated "that they are not qualitatively different from rapists in terms of the underlying schemas they have about the world" (p. 1385).

In our view, it is possible to amend and re-focus traditional cognitive behavioural sex offender treatment programs to make them more relevant to the needs of sexual murderers. Our literature review and data suggest that out of the range of currently-accepted treatment targets for sexual offenders, a fairly identifiable sub-set of targets seem to apply to sexual murderers. Our experience in treating sexual murderers in

[13] Although this should arguably be considered a responsivity issue rather than a treatment target.

[14] Particular benefits were noted for those offenders who participated in both a regular cognitive-behavioural sex offender program encompassing work on attitudes, justifications, victim empathy, and relapse prevention, and an additional schema-focused program addressing entrenched dysfunctional schemas about self and others, emotional regulation and intimacy skills.

a regular sex offender treatment program further indicates that as long as the program offers flexibility to focus on particular areas as needed, a different program does not seem to be necessary. The overlap in treatment needs between sexual killers and non-homicide sex offenders is substantial, and of course it is also the case that non-homicide sex offenders are a heterogeneous group. Marshall and Hucker (2006) suggested six important adaptations that could be made to a typical sex offender program in order for it to be suitable for sadistic offenders. Their suggestions make excellent sense with respect to sexual murderers and hence, we repeat them here:

1. When offenders describe their offending – the typical starting point for most sex offender treatment programs – ensure they do not provide the details of the sexual, violent and sadistic elements of their offending.
2. Challenge every expression of beliefs that favour violence.
3. Adapt victim empathy work to focus on the victim's *post*-offence suffering, rather than examining their suffering *during* the offence. Opinions differ about the value or danger of discussing with a sadist how their victim suffered during the offence. However, Marshall and Hucker made a strong case that the sadist was not intending to exert control outside of the offence itself, so discussion or evocation of the victim's *post* offence suffering is likely to reduce the offender's dehumanization of the victim[15].
4. To particularly focus skills-building work on skills that would meet the offender's need for control in a pro-social way.
5. To encourage greater emotional expression, as sadists tend to over-regulate their emotions.
6. To make fantasy modification an essential element of treatment.

Tardif et al. (2007) also considered special elements of treatment for sadistic sexual murderers. They particularly recommended that treatment should not focus on sexual motivations such as sadism until later stages of incarceration. Earlier in a prison sentence, interventions should focus on three key objectives: (1) to humanise all interpersonal relationships; (2) to encourage acceptance of the real world in preference to the previously-preferred fantasy world; and (3) to develop self-esteem that is not oriented toward omnipotence (i.e. not dependent on achieving domination over

[15] These points are probably relevant to all sex offender programs. When working with offenders who have killed their victims, and there is no post-offence victim suffering, two options are available: to focus on the suffering caused to family and friends, or to focus on the victim's humanity prior to the offence. For instance, a man who killed an elderly victim could be asked to consider her possible life history, hopes and expectations for her old age, and likely desire to die with dignity as a fitting end to her life. Alternatively, or additionally, the offender could be offered opportunities to consider the impact on the victim's family and friends, not just the impact of the *fact* of her death, but the impact of the *manner* of her death.

others). For angry, rather than sadistic, sexual murderers, an additional short-term objective is to offer support in dealing with the emotional consequences of the offence; and in the long term, to teach the offender to better manage situations where he feels narcissistically affronted, particularly involving women.

Beech et al. (2005) suggested that the key to successfully treating sexual murderers is to recognize the different possible motivations for the homicide, and to adapt treatment accordingly. Grievance-motivated offenders should take a treatment pathway that emphasizes anger control and schema-management. Sexually motivated offenders should focus on their views of women as sexual objects. Sadistic offenders need, as a priority, behavioural modification work to improve their engagement in healthy sexual fantasies, and to learn strategies to control (or ideally, eliminate) sexualized violence fantasies.

In this chapter, we have only considered the psychological needs of sexual murderers. Marshall and Hucker (2006) strongly argue that psychological intervention alone is insufficient. Medication, such as anti-androgens (e.g. cyproterone acetate), testosterone-reducing medication (e.g. medroxyprogesterone acetate) or SSRIs (e.g. fluoxetine), should augment psychological treatment. For those SKs or PMSIOs who suffer from sexual preoccupation, sadism or necrophilia in particular, pharmacological therapy should most definitely be considered (see Bradford, this volume).

Assessment and Management

Beech et al. (2005) revealed a range of implementation issues that likely affect the success of therapy with this difficult client group.[16]

a. The needs of female therapists should be carefully monitored and considered. Male therapists may need additional training in recognizing and responding to attempts to covertly dominate female staff and in presenting as excellent male role models. Female therapists reported experiencing both overt and covert hostility and sexualization from sexual murderers in treatment. The expressions of hostility are at their most covert when in the presence of male therapists, who often missed the expressions entirely. Tardif et al. (2007) noted a similar phenomenon with this particular client group, where "Typically, therapists... feel intruded upon and violated with regard to their personal boundaries – in short, a victim-aggressor relationship is initiated" (p. 219).

[16] These points are probably relevant to all sex offender programs.

b. Senior management support is essential. For specialist treatment to be successfully implemented, the senior managers in a correctional service must agree that the resource should transcend local and regional considerations.
c. Treatment should be delivered and supported by multi-disciplinary teams, equally representing both genders.
d. Treatment should start early in the incarceration period, and managers should be prepared to expect that in many cases, treatment may need to be repeated before "the penny drops" (reaching an understanding about something they have struggled to comprehend or have misunderstood for a period of time). As Tardif et al. (2007) note, sexual murderers often do poorly in treatment because they are "so invested in their position of omnipotent aggressor that they remain completely opposed to the idea of exploring their inner world" (p. 219). However, appearances can be otherwise: "Sexual murderers with good cognitive abilities are quite capable of showing successful integration of treatment" (p. 224). This appearance of psychological healthiness can be due to faking in some cases, or in others can reflect the fact that many murderers do not show signs of pathology prior to committing a homicide.
e. Perhaps for the reasons described in the above point, treatment should take place only where objective assessment processes are available. Self-report, including psychometric questionnaires, are too subject to distortion. Phallometric testing, polygraphy, and some newer methodologies are all possible approaches.

In addition to the recommendations above, we would suggest that there are a number of other steps that could usefully be taken to help ensure traditional programs are applicable for SKs.

Determining if a killing was sexually motivated or had a sexual element is crucial for planning, for making assessments and implementing treatment. The difficulty often experienced when trying to establish if a killing was sexually motivated or had a sexual element could be helped by ensuring that staff who work with these men have an opportunity to develop their knowledge in this area. Allowing staff to focus on sexual killing as a core part of their forensic practice could enable them to more quickly develop skills in these areas. Research resources should also be made available to research SKs sub-groups (e.g. those who victimize children, those who victimize men, those who kill following a rape to get rid of the witness to the crime). This research information could then be used to educate staff, helping their ability to fulfil their specialist roles and help inform assessment issues, the planning and development of treatment pathways.

A sound understanding of the issues relevant to sexual killing is necessary for staff undertaking assessments of progress in treatment including the perpetrators ability to generalize skills learned outside of the treatment room. In terms of staff undertaking risk assessments on SKs, to help ensure objectivity, staff should avoid undertaking this role if they have been directly involved in the treatment of the individual concerned. All staff working with this client group must develop some level of knowledge or expertise in this area. This could be met through providing specialist training on relevant areas tailored to the expected level of their involvement. Staff not directly involved in delivering treatment would not require training in facilitation but could benefit from some training on the client group as a whole (e.g. the extent that social isolation is an issue in their lives, that they present as hostile to women, presence of a large number of psychopathic traits). All of this would help staff effectively engage with prisoners, understand problematic behaviour and recognize areas that would be difficult for these men to address and change.

Psychopathy is a relevant issue for a sub-set of SKs and it would be expected that psychopaths would be present in treatment programs for these men. Strategies for dealing with difficult and psychopathic prisoners need to be well thought through, robust and carefully implemented to prevent a *staff versus prisoner* culture emerging. The litigious behaviour of many life sentence prisoners, amplified by requiring them to undertake a range of assessments and challenging treatments, can put pressure on staff and disrupt therapeutic alliances. Transparent, open working relationships can, to a certain extent, reduce offenders' desire to take legal redress. Equally important would be that staff are trained and able to deal with the kinds of problems and pressures that can arise when working with SKs, many of whom are being asked to undertake work related to sex offending but whom are serving an index offence for murder or manslaughter without a sexual conviction. Ideally, legal issues and correspondence should be the responsibility of someone not directly involved in treatment so that these functions can be kept separate. The tension that could arise when staff are being asked to balance an open, collaborative and therapeutic approach with prisoners while remaining objective and guarding against susceptibility to being manipulated needs to be recognized, discussed and monitored. This could be particularly felt by staff who have a disciplinary function as well as a therapist role.

Given the limited existing research with SKs, and that acting on some of the issues and recommendations we have outlined could be challenging, we would suggest that a forum or network is established for staff in this field to share understanding, get support, advice and develop best practice. An important question is whether sexual murderers should be integrated into regular sex offender treatment programs, or whether (and to what extent) they should be treated separately. There are three possible options, all of which we consider to be acceptable, but with each having their own advantages and disadvantages:

- Treat sexual killers in regular sex offender treatment programs alongside other non-homicide sex offenders,
- Treat sexual killers separately from non-homicide sex offenders, but locate them together with non-homicide offenders,
- Locate and treat sexual killers separately.

We would suggest that given the research to date on SKs that they share more similarities than differences with rapists and, they can be placed in groups with other SKs and/or rapists.

Clarke and Carter (2000) argued there were advantages in locating SKs together to undertake treatment. Table 3 outlines advantages and disadvantages of a specialist unit for SKs which we will now discuss.

Advantages of a Specialist Unit for SKs

As covered above, the assessment of SKs poses a number of difficulties. The provision of a specialist unit for SKs would lend itself well to the development of expertise and knowledge about the assessment and treatment of these perpetrators, which could be disseminated to other forensic settings. Running groups in specialized units with programs adapted for SKs would present an opportunity to quickly act upon experience and feedback, to improve treatment delivery, and to incorporate emerging research with this client group. It would also provide an ideal environment for staff to develop specialist roles in assessment and treatment. Staff support and positive therapeutic alliances are important ingredients in successful interventions (Beech et al., 2005). A dedicated unit would help ensure that awareness and training would be available for all staff working with SKs. Practically, such a unit would be well placed to provide specialized assessments such as penile plethysmography. As staff develop expertise in assessment and treatment of this client group, it would be hoped that they would feel more confident and able to defend their work and deal with the pressures that can arise. Sending out a message that a service is providing an opportunity for SKs to get treatment and meet targets for parole via a discreet unit could counter some of the scepticism that SKs, their families and legal teams can encounter.

Disadvantages of a Specialist Unit for SKs

A dedicated unit for SKs in a particular establishment needs to be supported nationally by the correctional system. Otherwise the practical difficulties in terms of transferring prisoners in and out of a unit in a timely fashion to ensure that assessment, treatment and progression targets are reached could be compromised. If prisoners are to be expected to move away from families and friends to undertake treatment, a realistic time frame is necessary to prevent frustration or ill

Table 3. — Undertaking assessment and treatment with SKs in a specialist facility: Possible advantages and disadvantages

Advantages	Disadvantages
Allows the development of expertise in assessment and treatment of this client group	Potentially very demanding and stressful environment
Allows opportunity to provide awareness and specialist training open to all staff working on the unit	Unit location could mean that prisoners are located far from family and friends
Discreet unit enables a culture where everyone contributes to developing meaningful and supportive relationships with prisoners	Danger of a staff verses patient culture developing
Improves research opportunities (e.g. help ensure larger sample sizes available for study)	Dangers of making SKs (and the staff who work with them) seem elitist
Facilitates the support of staff as they will have very similar treatment experiences	National resource may have difficulty finding support from regionally organized prison system
Allows opportunity to provide specialist assessment (e.g. PPG)	Litigious nature of life sentence prisoners who could be fuelled to take legal action by encouragement from other prisoners and because they are in a demanding situation
Can quickly disseminate and act on changes to lifer policy, emerging findings in research	Defending reports at oral hearings is demanding and time consuming and detract focus from therapeutic process

feeling on the individuals' part. Allowing prisoners breaks from treatment to go to an establishment nearer family for accumulated visits would only work efficiently if transfer and return was organized promptly with the support of prisons nationally. A dedicated unit with larger numbers of SKs and potentially, greater numbers of psychopathic individuals could increase the likelihood of both staff and prisoners being seen as elitist within the prison. The concentration of this client group in

one place and the potential pressures this work brings could increase the likelihood of *staff verses prisoner* culture developing. The hearing process for lifers, where prison staff are often called to defend their reports in adversarial parole board panels, is time consuming and demanding and again can hinder therapeutic alliances.

The litigious behaviour of life sentence prisoners mentioned above, could be increased by housing these men together. Our suggestions on open working relationships and separating therapeutic input from involvement with legal responsibilities as much as possible would be important to maintain a therapeutic and constructive environment.

Whether or not SKs are assessed and treated in a discrete unit, we would suggest that the issues outlined above could usefully be considered for interventions with these men. In our experience, it is quite common to find that men who we would consider to have committed a sexually motivated killing have not been convicted of any sexual offence, often because this aspect of the crime was not been pursued by the courts. Asking these men to consider participating in a Sex Offender Treatment Program when they are not serving a sentence for a sexual offence, and can be in denial of any sexual aspect, can work against constructive engagement and result in the involvement of their legal representatives. Treatment providers will need to determine whether there should be a policy that participants must accept the sexual element of their offence prior to coming into the course or whether the group could be used to facilitate this kind of admission. If the latter stance were taken, strategies to help offenders out of denial would need to be considered in addition to creating an environment where participants are able and feel safe to talk about all aspects of sexual killing including post mortem interference.

For those offenders diagnosed with a personality disorder, we would suggest some kind of psycho-educational work aimed at raising personality disorder awareness. This could assist prisoners to develop insight into personality disorder, how it has possibly impacted their life, relevance to offending and to undertake work to lead a more fulfilling and offence free life.

Provision also needs to be made for the responsivity needs of these individuals and again, a discrete unit does lend itself to a more innovative and flexible approach. For example, psychopathic offenders who are prone to boredom and in need of stimulation may benefit from being placed in smaller groups, so that they get through the course more quickly and are not expected to focus on other prisoners' needs for long periods of time. Ensuring that sessions do not last for more than an hour to facilitate concentration could also make dynamics eas-

ier to manage. These measures could of course be taken in the absence of a specialist unit.

Step Down Provision

Consideration for step down provision is paramount to both ensuring that prisoners are supported and encouraged to try new skills and different ways of thinking as well as helping staff to establish if new skills to deal with problematic and risky behaviours are being generalized. Simply looking for the absence of problematic behaviour, particularly given that some of these SKs will be overcontrolled or manipulative, is probably insufficient. The presence of positive attitudes and behaviours to deal with unhelpful thinking and behaviour should also be looked for. For example, for perpetrators who disclose hostile attitudes to women, any indication that they are developing positive attitudes to women both in a professional or personal capacity that are demonstrated across time and during periods of stress would be important indicators for risk assessment reports. In addition, some of the treatment needs identified in this chapter could be important areas to monitor after the prisoner has been released on parole, such as how they are dealing with alcohol use or taking measures to ensure that they do not become isolated. Of course, problems in these areas would act as signals to intervene and in certain circumstances, could trigger return to prison.

Consideration given to progression establishments will generally involve the offender moving through the system via decreasing levels of security until release. Progression and community-based staff should receive awareness training about SKs and related issues as described above. A receiving establishment where there were no staff with specialist knowledge on SKs should be avoided if we are to safely progress individuals and meet public protection responsibilities.

Community Management

Staff involved in the supervision of SKs and PMSIOs released on parole should receive training to work with these men as we have suggested above and would also benefit from having a forum to discuss concerns. Our observation that sexual murderers and PMSIOs may be particularly affected by social and emotional isolation emphasizes the need for a high level of social support to be provided after release. Statutory agencies and supervision arrangements usually do not extend to offering a social life, and the offender may doubt the level of personal commitment in the support being offered. For this reason, we strongly support initiatives such as Circles of Support and Accountability (COSA), and note the very promising outcome data of COSA in reducing reconviction rates among the most notorious, high risk cases (Wilson, Picheca, & Prinzo, 2005).

Future Research

We have identified a number of dynamic treatment needs as being under researched. Additional research would bring increased understanding to this crime and ultimately improve interventions. Further work on identifying the sub-groups of SKs could prove fruitful in delineating dynamic treatment needs and tailoring treatment to suit the spectrum of motivations for the fusion of sex and killing. In this chapter we have considered PMSIOs as a sub-group of SKs and while similarities exist, some potential differences in treatment needs have emerged.

We are aware that it is always very difficult to establish why an individual actually killed someone and in what way sex was attached. This is a question that should be considered more frequently, particularly with SKs who have engaged with the therapeutic process. The possible role of loneliness in the genesis of the antecedents to sexual killing warrants further exploration and whether it has a role in the escalation of behaviour to sexual killing should be examined. MacCulloch et al. (1983) uncovered such a dearth of social interaction and sexual encounters for the majority of the sexual killers in their study that, "sexual fantasy life and behavioural try-outs were their only source of sexual arousal" (p. 25). The possibility that loneliness contributes to the development of sadistic fantasies, development of paraphilias and hostile attitudes toward women could be a helpful next step to understand and inform the treatment of sexual killers. Ressler et al. (1988) have developed their understanding of sexual killing by in depth interviews with SKs, predominantly serial killers. Although there are limitations to this approach, we would suggest that it would be helpful to ask and collect information from prisoners about what, if anything, could have been done to prevent them from committing these crimes. Our experience in working with these prisoners suggests that this is an often overlooked but potentially helpful source of information. For this reason, even single case studies can usefully add to overall knowledge of assessment and treatment of such offenders.

Conclusion

We have considered the treatment needs of SKs and PMSIOs and conclude that the dynamic treatment needs identified in SARN and STABLE-2000 are relevant to both groups. In addition, we have made some suggestions about the way in which cognitive behavioural sex offender treatment programs can be adapted to be run with SKs. If possible, implementing programs within a specialist unit might provide the best environment to do this although providing a limited range of sites as opposed to mixing SKs with overall Sex Offender Treatment Programs would help to support staff

working with these perpetrators and help ensure effective assessment and treatment for SKs within general custodial settings.

In conclusion, SKs represent much of what is so challenging for forensic psychologists and treatment staff. Forensic staff are charged with trying to understand crimes, help inform assessments, develop interventions, and give opinions on risk that contribute to decisions concerning progression and release. The terrible crimes and consequences of SKs demand that a co-ordinated and research-driven approach be taken to improve and disseminate understanding of this crime.

Acknowledgement

We would like to thank Trish Wincote and David Thornton for their helpful comments on an earlier draft of this chapter. We would also like to thank Clive Hollin for his assistance in developing the ideas discussed in this chapter.

The views expressed in this chapter are those of the authors and do not necessarily represent the official position of the Ministry of Justice and Her Majesty's Prison Service.

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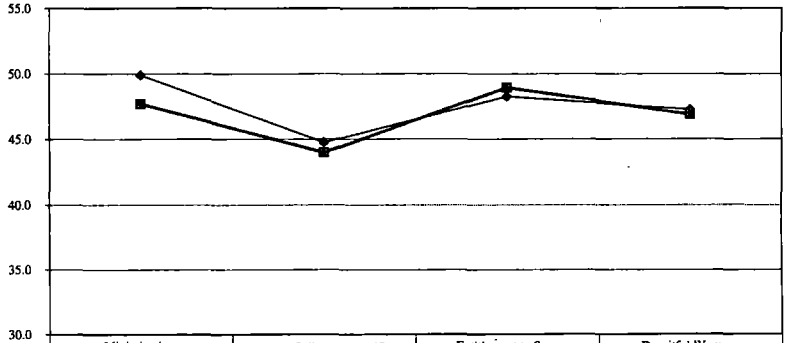
APPENDIX 1

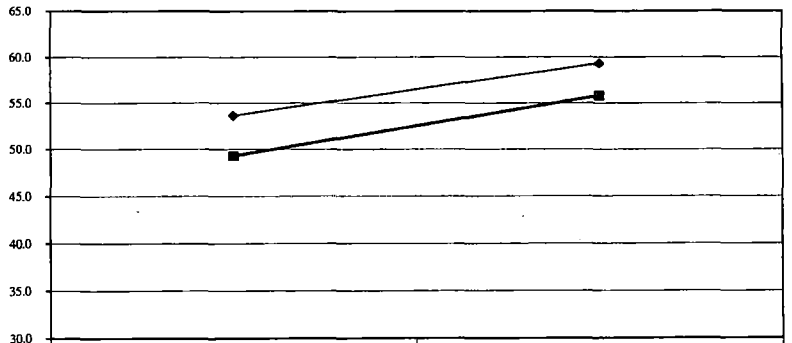
Graphs showing the average scores for 19 SKs and 17 PMSIOs on a range of psychometric measures, compared to the average score for 644 adult male (mean age 48.6 years)

Graph 1. — Offence Supportive Attitudes Domain: Hi Scores (>55) indicate Treatment Need



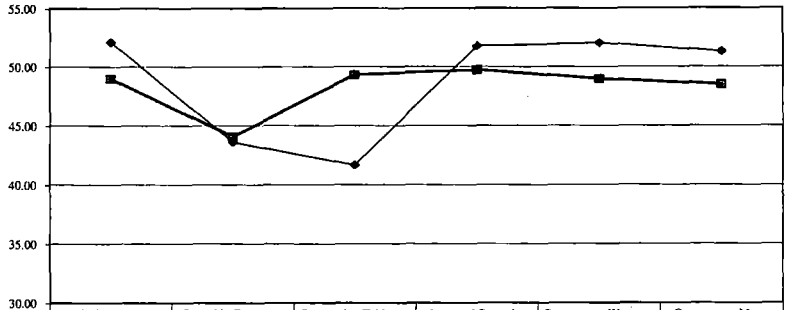
	Minimization	Sex with Children is Justifiable	Entitlement to Sex	Deceitful Women
PMSIOs	49.9	44.8	48.3	47.3
SEXUAL KILLERS	47.7	44.0	48.9	46.9
Medium Risk	49.1	49.2	49.1	50.7
High Risk	46.6	49.2	51.4	51.2
Very High Risk	43.3	51.9	52.7	51.8

Graph 2. — Relationships Domain (Graph 1): Hi Scores (>55) indicate Treatment Need



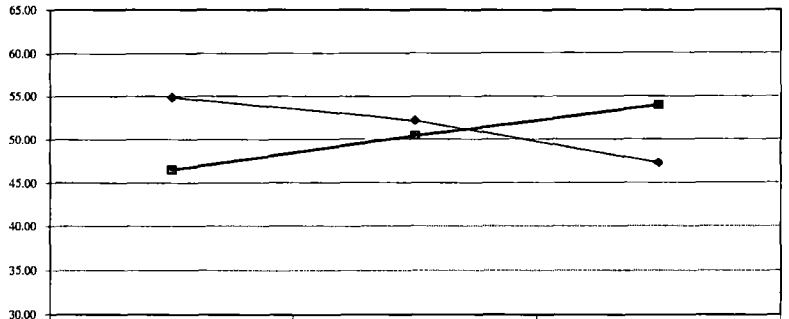
	Ruminations	Emotional Loneliness
PMSIOs	53.7	59.3
SEXUAL KILLERS	49.2	55.8
Medium Risk	52.4	51.6
High Risk	53.9	53.2
Very High Risk	55.5	55.8

Graph 3. — Relationships Domain (Graph 2): Low Scores (<45) indicate Treatment Need



	Self-Esteem	Empathic Concern	Perspective Taking	Locus of Control	Openness to Women	Openness to Men
PMSIOs	52.1	43.6	41.7	51.8	52.0	51.3
SEXUAL KILLERS	49.0	44.1	49.3	49.8	49.0	48.5
Medium Risk	49.4	47.5	48.6	50.6	49.9	49.2
High Risk	47.4	45.8	46.0	48.7	48.9	48.5
Very High Risk	45.3	46.0	45.1	47.1	47.0	46.6

Graph 4. — Self Management Domain: Hi Scores (>55) indicate Treatment Need



	Impulsivity	Personal Distress	Fantasy
PMSIOs	54.9	52.2	47.3
SEXUAL KILLERS	46.5	50.4	54.0
Medium Risk	51.6	50.4	50.9
High Risk	54.0	52.5	52.5
Very High Risk	56.7	51.2	52.8

Mr. Carter's Discussion

Arrigo: I am interested in what some would call the least restrictive environment, the least invasive form of intervention. At what point does one make a determination about step-down levels of care or release? Eventually, people have to resocialize and recommunalize. What kinds of things do you do in your unit as a basis to say, "Ok, this client can make this transition?"

Carter: We expect them to demonstrate learning in how they interact with staff. If they have an anti-authoritarian approach to staff before they come to the unit, and they start to be more engaging and therapeutic with staff, that demonstrates learning. Often their relationship with their probation officer is an important indication that they are working constructively. When people start to progress closer to release, they must have an opportunity to work in placements within the community. That is an important indication of how well they are generalizing learned skills.

Arrigo: To what extent do our interventions enable people to act out, particularly when they are troubled and vulnerable, in comparison to the extent to which our interventions enable and empower them to tap into their competencies. In my experience, we create interventions that indeed tap into people's limitations and pathologies and to some we create asylum-like conditions.

Carter: We are not setting out in treatment to make someone who is going to necessarily be the person you want to live next door to or sit and talk to on the bus. All we are really trying to do is to stop them being at risk for committing a serious offence. We need to be careful not to instil our values and so forth on to these individuals.

Proulx: In your model the sadistic offenders are trapped in their vicious cycle with mental disorder, social isolation, and low self-esteem and they cannot get out by themselves. In treatment, we do not focus only on deficits, we also focus on the skills that they have to develop to get out of that cycle. We give them opportunities to improve their lives so they will not have to engage in sexual aggression as the only way to cope or feel alive. In a treatment program, we deal with risk factors, but we also focus on the development of skills to improve quality of life.

Carter: All our programs run with a Good Lives approach. In the extended program, we do an exercise where they compare the "new me" to the "old me". They are working towards trying to meet their needs in a prosocial way that leads them away from violence.

Schweighofer: Unfortunately the nature of our work tends to pull us toward pathology. In supervising staff, one of the constant refrains is "What can we say that is positive about this man? What can we emphasize in this report about what he is doing well?" The importance of remaining mindful of the strengths and explicitly commenting on them is something too often overlooked.

Arrigo: We are so drawn to the pathology, harm, and violence that it becomes the definition that we attach to that person which then forecloses other ways of looking at the individual that might preclude alternative forms of intervention. To what extent do we find ways to encourage, enable and empower this person to tap into the strengths that he may have?

Schweighofer: Increasingly, with the ascendance of the Good Lives model, that way of thinking is achieving increased emphasis.

Pagé: The Good Lives Model has fantastic things to offer, but we do not want to forget relapse prevention as part of the model. The combination of both can help us to enhance treatment and make it more effective for the clients.

Bradford: Mr. Carter, have any of your guys been released? What are the follow-up and rates of recidivism?

Carter: We do not have statistics on the effectiveness of SOTP with Sexual Killers. However, in terms of further reconvictions, between 2000 and 2007 there were approximately 1700 life sentence prisoners released on life licence. I know of only 3 cases (from a total of about 30 reconvictions for serious offences) where there was a murder committed by a life licence prisoner and I understand in only one of these cases was the killing considered to be sexual. This killing was not committed by someone on life licence for murder or manslaughter. These figures have not been published and should be treated as an estimate but may act as an indication of future murders committed by life sentence prisoners. A proportion of these offenders would have taken a Sexual Offender Treatment Program, it is not possible to draw conclusions about the efficacy of treatment from these figures.

Perkins: In terms of child molesters, rapists, and sexual killers, who should be together in group therapy? I wondered if you have had experience with mixtures of types of offenders together, and what are your observations on that?

Carter: We mix people together, and that is mainly because they had to complete treatment before a hearing or by a given time, so we had to get people into programs.

Inevitably, we had a mixture of people who had killed adults and children, males and females. I think having that dynamic wasn't a bad thing. If anything, it created different discussions and you would find that someone who was initially resistant to answering questions would feel more comfortable asking questions about someone else's offences because they were different from theirs. You could feed that back to them and really force the fact that they were giving insights and asking questions. In my experience, the mix has been very helpful and something I would support.

Looman: Mr. Carter, with regard to mixing different types of offenders in the same group, in our program, we've had at least three guys who have been post-mortem sexual interference in our regular groups and they've disclosed, not in gory detail, but they've disclosed the nature of their offences in the group. I wouldn't use the word "well-received" but it was accepted, it was surprising how little reaction that got. One of the guys in particular was a repulsive person to begin with, in terms of his mannerisms, hygiene, etc, and he got almost no heat from group for the kind of offence he committed.

Carter: I think a key consideration is how you set up the group. We bring a graduate from the previous group into the new group. The graduate talks about what they got from disclosing their offence, what they got from treatment, what they found difficult about it. There was one prisoner who denied any sexual motivation for his offence for over 20 years and wouldn't cooperate with staff and he made a turn around, so we used him as the first person to act as the graduate. I have felt that if you set up a group well, it doesn't matter, there can be arguments and tensions and people can fall out – you can always recover from it.

Pagé: I questioned the validity of open-ended groups at first but moving forward, the graduates would stay in the program and became role models for the other offenders coming into the group. The guys that are in the program really benefit from having mentors and knowing that everybody goes through the same process. For us, open-ended groups worked really well.

Carter: We do have open-ended groups or rolling programs. There are some advantages to that. Modelling of people actually disclosing and acting as role models for other group members can be beneficial. As far as I know that's not being run with groups of sexual killers. But it would certainly be an interesting prospect to explore further.

Schweighofer: As someone who supervises staff, including female therapists, I was struck by your comment that male co-therapists were often unaware of some of the subtly sexually coercive behaviours that female staff were being subjected to. Were

there any particular strategies or techniques that you were able to employ that heightened the male co-therapists' or supervisor's awareness?

Carter: As we started to develop there was more of an emphasis on staff support and welfare and these kinds of supervision issues. We are starting to look at some of these issues. For example, if a prisoner started to speak over a female facilitator and so forth, then the male facilitator would jump in and stop it. Rather than thinking about how they could support the female facilitator to deal with it themselves. Knowing that this happens and making sure that you turn to these issues and they are discussed would be a necessary thing to do. In addition, all people working in these groups have to go and see a counsellor during the time they're working in treatment.

Perkins: It is quite difficult at times and it is important that there be space for looking at how, not just male-female but junior-senior facilitators operate together and what messages that conveys or doesn't convey to men who may be attuned to potentially exploiting a situation sadistically.

Abbott: Mr. Carter mentioned the need for appropriate training and specialized training in this area for staff, especially staff that are providing treatment. What would you recommend in terms of components of training, or what did you have in place when you were working in that facility in training?

Carter: What we have is very different to what I'd do now if I was going back. Everyone on the unit was trained in the sex offender treatment program so that they could work together in a supportive way regardless of whether they were going to deliver treatment or not. We ran staff awareness throughout the whole prison. Some training would have been helpful regarding the integrated theories of sexual offending, awareness about working with people with psychopathy, and case formulation. The training would divide into different roles depending whether people were specifically working to support or deliver treatment. Additionally, training in defending reports at parole hearings should be included because you can do a very good job at case formulation, but if you can't go out and defend your report then a panel may not take any interest in it. If I had the opportunity again, I would look at specific training packages and keep people up to date with the literature and research into sexual murder.

Sexual Murderers: Theories, Assessment and Treatment

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Sexual Murderers: Theories, Assessment and Treatment

In the public's imagination, the archetypal sexual murderer is someone like Ted Bundy, an intelligent, charming and manipulative psychopath who killed scores of women. The extensive media coverage accorded to sexual murders has resulted in a widespread belief that this is a common type of crime and that virtually every woman is likely to be the next victim. This classic stereotype of unbridled violence is rooted in the hatred of women and long-nurtured sadistic sexual fantasies. But does this perception of sexual murderers actually reflect reality?

To answer this question we will present a review of the theories and empirical studies of sexual murderers. Our review will be based on information drawn from the following sources: 1) the papers presented by six experts on sexual murderer at the Forum on Sexual Sadism held on September 30 and October 1, 2007, in Ottawa; 2) the content of the post-presentation discussions with the six experts, three professionals from the Correctional Service of Canada's Research Branch, 11 Canadian professionals involved in the management of sexual murderers, and a moderator-facilitator, specifically this author; and 3) the book *Sexual murderers: A comparative analysis and new perspectives* (Proulx, Beauregard, Cusson, & Nicole, 2007), which presents the results of two studies on sexual murderers, one conducted in Canada and the other in the United Kingdom. This book also suggests some guidelines for the treatment of sexual murderers. We will use a synthesis of the characteristics of sexual murderers drawn from these various sources of information as a basis for proposing assessment methods and therapeutic approaches for sexual murderers.

In this chapter, we will outline a synthesis of the current knowledge on sexual murderers. We will propose a definition of sexual murder and then present epidemiological data. Next, we will discuss theories and typologies of sexual murder and then describe assessment methods tailored to the specific characteristics of sexual murderers. Lastly, psychopharmacological and psychological treatment methods for sexual murderers will be suggested. More specifically, we will discuss institution- and community-based management procedures for sexual murderers.

Definitions

The first obstacle to defining sexual murder is the absence of a legal definition. As Roberts and Grossman (1993) indicate, there are no sections in the *Criminal Code of Canada* that deal specifically with sexual murder. While certain sections of the Code do cover murders committed during sexual crimes, they provide only for a charge of first-degree murder, whether the crime was premeditated or not. In fact, beyond the legal implications, there is no mention of the crime's sexual nature. Note that in many cases, a first-degree murder charge results in a second-degree murder conviction

(Roberts & Grossman, 1993). In addition, applying the previously mentioned sections of the *Criminal Code* requires that the crime be identified as a sexual murder – not an easy task in the absence of victim testimony.

Investigators attempting to solve a murder and determine whether it includes a sexual component rely on two sources of information: testimony from the murderer or a witness, and material evidence, which is primarily drawn from a key source – the crime scene. Ressler, Burgess and Douglas (1988) suggest that a murder can be considered sexual if the crime scene exhibits at least one of the following: 1) the victim is found naked or partially clothed; 2) the genitals are exposed; 3) the body is found in a sexually explicit position; 4) a foreign object has been inserted into a body cavity (anus, vagina, mouth); 5) there is evidence of sexual activity; and 6) there is evidence of substitutive sexual activity (e.g., masturbation and ejaculation at the crime scene) or of sadistic sexual fantasies (e.g., sexual mutilation). Carter, Mann and Wakeling (2007) suggest that murder can be characterized as sexual when the sexual factors and the homicide are simultaneous or very close in time.

Defining sexual murder also entails purely lexical problems. The terms "sexual murder," "serial murder," "mass murder" and "lust (sadistic) murder" are often used interchangeably (Langevin, 1991; McKenzie, 1995; Myers, 2002). Actually, "mass murder" refers to a murder involving at least three victims, killed in the same location, at the same time. "Serial murder" comprises a series of events, at different locations, separated from one another by transition, or emotional cooling-off, periods. Mass and serial murders may or may not be sexual. Similarly, serial and single-victim sexual murders may or may not be sadistic. This lexical confusion can lead to research weaknesses. In fact, many studies are based on heterogeneous samples, composed of sexual and non-sexual murderers, while others include only sadistic sexual murderers. The difficulty inherent in comparing the results of such diverse research studies hinders our ability to gain a better understanding of sexual murder.

A final problem related to the definition of sexual murder concerns the sex and age of the victims. Many studies place the murders of women, men and children in one single category. However, our current understanding of sexual murders does not support the position that these various types of murders are part of a homogeneous phenomenon. Therefore, any definition of sexual murder should include categories identifying the age and sex of the victim.

Epidemiology

From 1974 to 1986, there were 305 sexual murders in Canada, or about 23 per year (Roberts & Grossman, 1993). These represented approximately only 4% of all murders committed in that period. In 1999 there were 22 sexual murders, representing 4.1% of all murders (Porter & Woodworth, 2001). The national rate of sexual murders, therefore, appears to have remained stable over the last three decades. Victims

have been primarily female (85%) and less than 30 years old (69%). Almost all sexual murderers have been male (99%) with half being 16 to 25 years old (Roberts & Grossman, 1993).

In the United States, from 1991 to 1995, sexual murders accounted for only 0.9% of all murders (Meloy, 2000). Over this period an average of 199.6 sexual murders were committed annually. Therefore, from 1991 to 1995, the United States recorded a rate of 0.09 sexual murders per 100,000 people each year. The Canadian rate in 1999 was also 0.09 sexual murders per 100,000 people. Therefore, the two countries showed the same rate of sexual murders.

Serial sexual murderers represent a small proportion of sexual murderers. In the United States, from 1975 to 1995, a total of 153 serial murderers were responsible for more than 1,400 deaths, or about 70 victims per year. Of all serial murderers, 60% are sexual murderers (Geberth, 1995). Therefore, from 1975 to 1995, serial sexual murderers were responsible for 42 victims per year, representing nearly 20% of all sexual murder victims. Since serial sexual murderers kill an average of 10 victims each, they account for approximately 2% of sexual murderers in the United States. The situation in Canada is similar, since serial sexual murderers constitute only 3% of incarcerated sexual murderers (Beauregard & Proulx, 2002). In view of these statistics, it is surprising that a major proportion of the sexual murder literature focuses on serial sexual murderers. This situation led Fox and Levin (1999) to conclude that "there may be more scholars studying serial murder than there are offenders committing it." Clearly, sexual murder studies that focus on serial killers shed limited light on the phenomenon of sexual murder as a whole.

Theories

A number of theories have been developed to explain sexual murder. Unfortunately, several of them are based on limited empirical evidence. Some theories rely solely on clinical observations, while others were developed from studies of small samples. Also, many of the theories are derived from studies analyzing a single category of sexual murderers, specifically serial sexual murderers or sadistic sexual murderers, both of which represent only a small percentage of incarcerated sexual murderers (Fox & Levin, 1999). Furthermore, some of the theories advanced consider only a limited number of factors. Despite these limitations, this chapter outlines the main theories of sexual murder as well as their empirical bases. Lastly, we will build a portrait of sexual murderers based on the areas of agreement between the theoretical models presented and recent empirical studies.

At the Forum organized by the Correctional Service of Canada, Dr. Arrigo, from the University of North Carolina's Department of Criminal Justice, presented an integrative model of sadistic sexual murder based on the theoretical and empirical works of MacCulloch, Snowden, Wood and Mills (1983), Burgess, Hartman, Ressler, Douglas and McCormack (1986), and Hickey (2002). This integrative model

"is a theory of serial, sexual and sadistic violence" (Arrigo, 2007). The model includes a developmental component describing the processes involved in the emergence and development of sadistic sexual fantasies. In addition, this model includes an analysis of the process of "acting out" that ultimately results in sadistic (lust) murder and its reiteration, serial sexual murder. Before presenting Arrigo's integrative model, we will describe its supporting theoretical and empirical foundations.

The Sadistic Sexual Murderer

Results of a study by MacCulloch et al. (1983) show that all the subjects in their sample of sadistic sexual aggressors ($N = 13$) reported having had problematic interpersonal relationships and socio-sexual interactions during adolescence. MacCulloch et al. suggest that these relationship failures result in *low self-esteem* and intensify the *social isolation* of sexual sadists. Under these conditions, *sexual fantasies* and *paraphilic behaviours* (voyeurism, exhibitionism, fetishism) become the primary sources of emotional and sexual gratification. In a large percentage of their subjects (79%), increasingly violent deviant sexual fantasies were necessary to maintain a high level of erotic stimulation. Finally: some sadistic offenders (54%) transpose some of the initial elements of their fantasies into reality (i.e., indulge in behavioural tryouts) to enrich them. For example, an emerging sadistic sexual aggressor could break into an apartment inhabited by a woman and watch her while she sleeps.

MacCulloch et al. (1983) put forward the hypothesis that sadistic sexual fantasies act as operant behaviours that diminish feelings of incompetence. For example, consider a sexual murderer whose interpersonal difficulties with women make him feel incompetent but whose sadistic sexual fantasies result in feelings of power and control, instead of incompetence. The recurrence of the sadistic sexual fantasies associated with a subsequent reduction in the feelings of incompetence (negative reinforcement) increases the probability these fantasies will reoccur in similar circumstances.

The Motivational Model of Sexual Murder

The motivational model of sexual murder was developed by a group of researchers associated with the Federal Bureau of Investigation (FBI) (Burgess, Hartman et al., 1986; Burgess, Prentky, Burgess, Douglas, & Ressler, 1994; Douglas, Burgess, Burgess & Ressler, 1992; Ressler, Burgess, & Douglas, 1988; Ressler, Burgess, Douglas, Hartman & d'Agostino, 1986; Ressler, Burgess, Hartman, Douglas & McCormack, 1986). This model is based on data collected in interviews conducted with 36 sexual murderers who were responsible for a total of 118 deaths. Most study subjects ($N = 25$) were serial sexual murderers. Most victims were female (82%) and over 13 years old (88%).

According to the FBI researchers, deviant sexual fantasies and acts of sexual murder are essentially inadequate coping strategies that sexual murderers use

when faced with stressful situations. The propensity to sexual murder results from a long process that includes the following steps:

1. In early childhood, the lack of care and affection results in a dysfunctional attachment style characterized by detachment and hostility.
2. Throughout childhood and adolescence, victimization experiences (sexual, physical, psychological) lead to *social isolation* and encourage the emergence of *violent sexual fantasies* that compensate for the lack of real-life control. Masturbatory activities reinforce the occurrence and role of fantasies in the psychological world of the developing sexual murderer.
3. The result is *negative personality traits (rebelliousness, aggressivity, feelings of entitlement, desire for revenge)* that interfere with the development of gratifying social relationships, prosocial values and empathy. Consequently, both the social isolation and the preferential reliance on sexual fantasies as a source of affective stimulation grow. In these fantasies, the murderer, no longer bound by the constraints of reality, becomes a grandiose and omnipotent figure.
4. Aggressive fantasies are manifested through non-lethal destructive actions such as arson, animal cruelty, and physical, sexual and psychological violence toward both those close to and unknown to the murderer. The future murderer experiences these behaviours both as an extension of the power that he assumes in his fantasies and also as revenge for the injustices he has suffered.
5. The first sexual murder is triggered by a *stressor*, such as a conflict with a woman (59%), conflict with parents (53%) or financial difficulties (48%).
6. Following the first murder, the murderer's fantasies become richer and even more invasive. When another stressful incident occurs, he plans another crime, in which he will not only try to reduce his risk of being caught but also maximize the fit between his fantasies and reality.

This motivational model of sexual murder has many strengths. First, it is based on empirical evidence, specifically collected from in-depth interviews with and official case files (police reports, court files) of, 36 sexual murderers. Furthermore, this is a particularly comprehensive model, since it addresses developmental factors, individual characteristics, and situational factors. However, the FBI's motivational model does have a number of limitations. Specifically, the sample used was not randomly selected (Godwin, 2000) and, as a result, serial sexual murderers are over-represented. In addition, because this study did not include a control group for comparison, it is impossible to isolate the factors specific to sexual murderers. Finally, the sample group comprises a mix of (murderers of women, of men and of children.) However, it is possible that these three types of sexual murderers exhibit different characteristics, which would justify separate studies for each group.

Social isolation and deviant sexual fantasies are two central factors in the FBI's motivational model. The conclusions of other studies agree with the FBI's and emphasize the significance of these two factors. For example, 55% of the 20 serial

sexual murderers studied by McKenzie (1995) were socially isolated. Grubin (1994) considered social isolation is directly and indirectly related to sexual murder. First, social isolation is a symptom of psychopathology that itself leads to sexual murder. Second, in the absence of interpersonal relationships, the sexual murderer relies on his inner world and fantasies for emotional gratification. Finally, Marshall (1989) indicates that loneliness itself is a source of suffering, which in turn generates violence.

Brittain (1970) considers that deviant sexual fantasies are at the core of the process that culminates in sexual murder. He suggests that they serve as a mechanism to compensate for low self-esteem. Indeed, in his fantasies and crimes, the sexual murder perceives himself to be superior to others, and even omnipotent (Hazelwood & Warren, 1995; MacCulloch et al., 1983; Meloy, 2000). Prentky, Burgess, Rokous, Lee, Hartman, Ressler et al. (1989) add that the fantasies cause the reoccurrence of sexual murder. In fact, 86% of serial sexual murderers report having homicidal fantasies, while only 23% of single-victim sexual murderers acknowledge having such fantasies. Other studies confirm that serial murderers show a high prevalence of aggressive sexual fantasies (Myers, Burgess, & Nelson, 1998; Ressler, Burgess, & Douglas, 1988; Warren, Hazelwood, & Dietz, 1996). The fantasies that preceded the first sexual murder lose their gratifying power with repetition (due to habituation), resulting in a quest for emotional intensity through an act of sexual murder that brings those fantasies to life (Gacono & Meloy, 1994). The fantasies would encourage the murderer to progress from the first murder to the next one, since they would prolong his pleasure during masturbatory activities (Meloy, 2000). Finally, the introduction of new elements into the fantasies stimulates repetition of the act, in the quest for the perfect crime.

The "Trauma-Control" Model of Serial Sexual Murderers

Hickey (2002) proposed a trauma-control model to help explain serial sexual murder. His model outlines a series of predisposing and facilitating factors that could lead an individual to commit serial acts of sexual murder. The predisposing factors are familial (e.g., dysfunctional family environment), psychological (e.g., mental illness, personality disorder) or biological (e.g., extra Y chromosome). Similarly to the FBI model (Burgess et al., 1986; Ressler, Burgess, & Douglas, 1988), the trauma-control model posits that traumatic events at a young age, such as victimization experiences (psychological, physical & sexual), can disrupt a child's normal development. Hickey (2002) adds that the impact of such traumatic events can be exacerbated by a dysfunctional family environment. In fact, an unstable surrounding environment will have debilitating effects on the young person. These factors will give rise to feelings of rejection, despair, helplessness and contempt and to low self-esteem. These are followed by the emergence of fantasies and daydreaming that act as substitutes for the adolescent's flawed social relationships. As a result, the individual comes to develop a distorted perception of himself and those around him. Fantasies then become his preferred strategy for re-establishing psychological equilibrium. The adolescent then takes refuge

in a fictional world in which he dominates others. Over the years, various other experiences (e.g., failed relationships) reinforce this distorted thinking. In addition, facilitating factors, such as pornography and alcohol, promotes escalation and, eventually, desensitization that, in conjunction with the other components of the model, culminates in sexual murder. Subsequent murders are driven by the quest for perfect convergence of fantasies and the real world.

The Integrative Paraphilic Model

Although the model advanced by Arrigo (2007) can be considered an extension of the motivational and trauma-control models, it completes them by adding further theoretical components. However, like Hickey (2002), Arrigo does not use any new data to support his model. Therefore, his model of sexual murder relies only on the empirical evidence provided by 13 sadistic sexual murderers (MacCulloch et al., 1983) and 36 sexual murderers, of which 25 were serial murderers (Burgess et al., 1986). According to Arrigo (2007), pre-disposing factors (e.g., insecure attachment, brain injury) and traumatic events (e.g., sexual, physical or psychological abuse) during development foster low self-esteem and distrust of society. The resulting cognitive adaptation takes the form of wallowing in deviant sexual fantasies. These fantasies express the anger felt during rejection and victimization experiences. Arrigo's innovative contribution is his assertion that paraphilias (e.g., exhibitionism, voyeurism, sexual sadism) develop with the emergence of deviant sexual fantasies and these paraphilias have a direct impact on the progression to the criminal acts. In these cases of significant social isolation, paraphilias arise from a self-sustaining cyclical process. This process comprises the following interactive elements: sadistic fantasies, paraphilia-related stimuli (e.g., handcuffs and whips), an orgasmic conditioning process, and facilitating factors (pornography, alcohol, drugs). The fantasies become increasingly violent. When faced with a significantly stressful situation, the potential sexual murderer experiences a need for intense stimulation that drives him to the lethal act. The first sexual murder fosters the emergence of new coercive sexual fantasies that in turn fuel repetition of the act.

Synthesis: Explanatory Models of Sexual Murder

The three models of sexual murder presented above show numerous areas of convergence. Briefly, the childhood of sexual murderers is characterized by victimization experiences that affect already vulnerable men (insecure attachment). Subsequently, these men develop low self-esteem and become socially isolated. To manage their negative emotions (anger, rejection) they wallow in sadistic sexual fantasies. These fantasies become a source of emotional and sexual gratification and give them an illusion of power and control that is missing from their real lives. Compulsive masturbatory activities and paraphilias both fuel and reinforce these deviant fantasies. Finally, during very stressful situations, they commit sexual murders, which are triggered by disinhibitors such as pornography, alcohol and drugs.

Despite its consistency, this model of sexual murder has a limited empirical basis. In fact, it relies on studies with small sample sizes in which serial sexual murderers and sadistic sexual murderers are over-represented. Furthermore, many of the studies used sample groups that included sexual murderers of women, of men and of children, when in fact, it is possible that these three categories of sexual murderers differ in terms of their development and motivation and of the characteristics of their progression to the act of sexual murder. Neither the studies by MacCulloch et al. (1983) or Burgess et al. (1986) included a control group of sexual aggressors who did not kill their victims. Finally, only the study conducted by Burgess et al. features a typological analysis. Therefore, in the next section, we will present recent comparative studies in which representative groups of sexual murderers were compared with groups of sexual aggressors who did not kill their victims. In a subsequent section, we will present typological studies of sexual murderers undertaken to identify the risk factors specific to each category. This type of procedure is necessary to develop a differential approach to the assessment and treatment of sexual murderers.

Comparison of Non-serial Sexual Murderers and Sexual Aggressors

To our knowledge, very few studies of sexual murderers have included a comparison group composed of subjects having committed other types of sexual crimes. In fact, there are five studies where non-serial sexual murderers were compared with sexual aggressors. The first comparative study was conducted by Langevin, Ben-Aron, Wright, Marchese, & Handy (1988). The researchers investigated developmental, psychological and criminological variables in a sample of 13 non-serial sexual murderers, 13 non-sexual murderers and 13 sexual aggressors of women. The second study was conducted by Grubin (1994), who compared non-serial sexual murderers ($N = 21$) with sexual aggressors of women ($N = 121$) to investigate developmental and psychological variables. The third study by Milsom, Webster and Beech (2001), investigated 19 non-serial sexual murderers and 16 sexual aggressors of women. A recent study by Proulx, Beauregard, Cusson and Nicole (2007) compared a number of developmental, psychological and criminological variables in a group of 40 non-serial sexual murderers of women and a group of 101 sexual aggressors of women. Finally, Oliver, Beech, Fisher and Beckett (2007) compared a variety of dimensions among sexual murderers ($N = 58$) and sexual aggressors ($N = 112$).

With respect to developmental variables, non-serial sexual murderers are more likely than sexual aggressors to be socially isolated (Grubin, 1994; Milsom, Webster, & Beech, 2001; Oliver et al., 2007; Proulx et al., 2007). In addition, more sexual murderers than sexual aggressors report having been victims of violent fathers (Langevin et al., 1988; Proulx et al., 2007). Also, more sexual murderers were under the yoke of a controlling mother (Milsom et al., 2001) and had deviant sexual fantasies (Milsom et al., 2001; Proulx et al., 2007). These results highlight certain de-

velopmental characteristics specific to sexual murderers that distinguish them from sexual aggressors. Several of these characteristics — social isolation, hostility towards a dominant mother and reliance on deviant sexual fantasies to compensate for a lack of real-world control – were outlined in the theories of sexual murder.

With regard to psychological factors, a clinical diagnosis of antisocial personality is more prevalent among sexual murderers than sexual aggressors of women (Langevin et al., 1988; Proulx et al., 2007). However, studies using the MCMI (Millon Clinical Multiaxial Inventory, Millon, 1983) show that antisocial personality disorder is equally rare among sexual murderers and sexual aggressors (Oliver et al., 2007; Proulx et al., 2007). In fact, results from these two studies indicate that the dominant personality profile for these two types of sexual offenders is characterized by the avoidant, dependent and schizoid personality patterns. How should this contradiction be interpreted? A plausible explanation is that clinicians have a tendency to make judgements about the act of sexual murder, the ultimate antisocial crime, rather than about the offender who commits the act. The MCMI, in contrast, assesses the sexual murderer and not his crime. Note that the personality profile identified with the MCMI is consistent with low self-esteem and a tendency to social isolation.

In the study by Langevin et al. (1988), sexual murderers showed higher IQs than sexual aggressors. In addition, they had higher testosterone levels. Nevertheless, sexual murderers show little difference in terms of brain pathologies, which are quite rare in both types of offenders.

Paraphilias are more prevalent among sexual murderers than among sexual aggressors (Grubin, 1994; Langevin et al., 1988). However, according to Proulx et al. (2007) paraphilias are rare among the two types of sexual offenders, the most common being sexual sadism (16.7% of sexual murderers).

With regard to criminological factors, sexual murderers can be distinguished from sexual aggressors on the basis of their criminal records and the circumstances preceding the sexual offence. Proulx et al. (2007) reported that the severity of prior violent crimes was higher for sexual murderers than for sexual aggressors of women. The reverse was shown for crimes against property. Anger is the dominant emotion in the hours preceding the offence among sexual murderers but not sexual aggressors (Grubin, 1994; Langevin et al., 1988; Milsom et al., 2001; Proulx et al., 2007). With regard to alcohol, the research has not yielded consistent results. For example, Langevin et al. report that alcohol consumption is more prevalent among sexual aggressors (50%) than sexual murderers (25%). In contrast, Proulx et al.'s study indicates that more murderers than sexual aggressors consume alcohol. Lastly, Oliver et al. (2007) report no difference between the two types of sexual offenders.

The comparative studies described in this section highlight a certain number of developmental, psychological and criminological factors that distinguish sexual murderers from sexual aggressors (see also Carter, 2007, for a summary of the intervention goals with sexual murderers). These are key factors for practitioners developing assessment protocols and establishing treatment programs for sexual murderers. How-

ever, it is possible to further develop these assessment and therapeutic procedures by drawing on the results of typological studies. In fact, sexual murderers are not a homogeneous group. Therefore, the various types of sexual murderers present specific problems that must be taken into account in their management. In this chapter's next section, we will shed light on this issue by discussing the typologies of sexual murderers.

Typologies of Sexual Murderers

To our knowledge, nine typologies of sexual murderers have been published (Beauregard & Proulx, 2002; Beech, Robertson, & Clarke, 2001; Clarke & Carter, 1999; Fisher & Beech, 2007; Keppel & Walter, 1999; Kocsis, 1999; Meloy, 2000; Ressler, Burgess, & Douglas, 1988; Revitch & Schlesinger, 1981). Sample size in these studies ranged from 28 to 85 subjects. However, neither Revitch and Schlesinger (1981) nor Meloy (2000) provided information on the number of subjects on which their typology was based. Keppel and Walter (1999) had no subjects. Also, some of these typologies were founded on clinical judgment (Clarke & Carter, 1999; Meloy, 2000; Ressler, Burgess, & Douglas, 1988; Revitch & Schlesinger, 1981), while others were based on multivariate statistical analyses (Beauregard & Proulx, 2002; Beech, Robertson, & Clarke, 2001; Kocsis, 1999) or qualitative analysis (Fisher & Beech, 2007).

Despite the varied samples and the diverse methods used to construct the typology, researchers have arrived at similar results, consistently identifying two main types of sexual murderers: sadistic and angry. In addition, they sometimes add the sexual murderer who kills to eliminate witnesses. This last type of sexual murderer is nevertheless problematic because they can be confused with the sadistic or angry types. Indeed, a sadistic sexual aggressor may decide to kill his victim at the end of the assault to eliminate any witnesses. In this particular case, the murder is not an element of the aggressor's deviant sexual fantasies. Therefore, in this section, we will present only the characteristics of sadistic and angry sexual murderers.

Sadistic Sexual Murderers

Sadistic sexual murderers exhibit a number of developmental, psychological and criminological characteristics that are consistent with the sexual murder theories presented earlier. With regard to development, a large percentage report having suffered physical and psychological violence (e.g., humiliation) during their childhood. Also, social isolation is a central feature of their socio-emotional functioning. Finally, the consumption of pornography, compulsive masturbation, and deviant sexual fantasies play an important role in their lives.

Psychologically, adult sexual murderers present personality traits and sexual interests that are consistent with their personal background. For example, they

show avoidant and schizoid personality traits, which involve low self-esteem and propensity for social isolation. In addition, they are prone to feeling rejected and humiliated by others, especially by women; this would explain their anger toward women. Some studies also report antisocial personality traits, but they rely on DSM-III-R (APA, 1987) criteria, which are far too broad. With regard to sexual deviance, sadists report having deviant sexual fantasies; this is consistent with their deviant phallometric profiles and a variety of paraphilias (sadism, exhibitionism, voyeurism).

Turning to criminogenic factors, despite a polymorphic criminal career (20% sexual crimes-80% other), their sexual offences constitute an extension of their deviant sexual preferences and their hostility toward women. Indeed, in the hours preceding the crime, they are overwhelmed by sadistic sexual fantasies. Also, emotionally, they report having felt anger and sexual arousal; their modus operandi is organized and in line with their sexual fantasies. Their offences are premeditated and involve humiliation and torture of the victim. This ritualized crime is usually committed in a previously selected location, where the aggressor can control his victim and has little risk of being interrupted. In most cases, the cause of the victim's death is asphyxia. Lastly, a significant percentage of sadistic sexual murderers engage in post-mortem sexual acts with the victim's corpse.

Angry Sexual Murderers

The developmental, psychological and criminological characteristics of angry sexual murderers are not much different from those of non-sexual violent offenders. In terms of development, they are seriously socially maladapted, which is manifested during childhood and adolescence by conflicts with authority, difficulties adjusting to school, and violent and impulsive crimes.

As adults, angry sexual murderers maintain an inappropriate mode of social functioning. They abuse alcohol and drugs and are unable to keep a job. Nevertheless, they are not socially isolated, despite the fact that their romantic relationships are marked by occasional acts of violence. They consume little pornography and do not report deviant sexual fantasies.

Psychologically, they often exhibit a borderline personality disorder. This type of personality is characterized by unstable emotional states and relationships. The functioning mode of borderline personalities also shows a pattern of impulsive actions, anger and consumption of psychoactive substances. These psychosocial features fit quite well with the portrait of angry sexual murderers presented previously.

The modus operandi of angry sexual murderers is very poorly organized in comparison to that of sadistic murderers. Indeed, very few of their crimes are premeditated. In the pre-crime phase, most of these aggressors feel angry and abuse psychoactive substances. This results in very violent offences, where the victim is usually killed by stabbing or by blows from a blunt object (e.g., a hammer). Post-mortem mutilation or sexual acts are very rare.

Synthesis of Typologies

Sadistic and angry sexual murderers exhibit specific psychological and criminological characteristics that must be considered in the management of their risk of recidivism. For sadistic sexual murderers, the following factors should be taken into account: social isolation, low self-esteem, consumption of pornography, deviant sexual fantasies, and anger toward women. For angry sexual murderers, the primary factors to consider are: excessive alcohol and drug consumption, impulsivity, and difficulty controlling anger. In the following sections, we will see how current knowledge on sexual murderers, whether theoretical, empirical or typological, can help us organize a framework to assess their risk of recidivism and their treatment needs.

Assessment of Sexual Murderers

According to Mossman (2007), "we should abandon the false hope that we can predict, intervene and stop individual tragedies and instead institute broad measures that reduce known risks for rare but harmful events" (p. 2). Mossman's quote highlights the difficulty, perhaps the impossibility of making accurate predictions about the occurrence of an event as rare as sexual murder. This same quote underlines the importance of taking measures to reduce the likelihood of such an event. These measures involve the assessment of the risk factors for recidivism in sexual murderers and the establishment of intervention programs to reduce the influence of these risk factors. In this section, we will address some of Mossman's arguments on the limitations of predicting sexual murder as well as the main recommendations made by Perkins (2007), Hart (2007) and Carter, Mann and Wakeling (2007) on the assessment of risk factors for recidivism among sexual murderers.

Prediction of a rare event such as sexual murder is associated with a large number of false positives (Mossman, 2007). In fact, when an event has a low base rate, there is a large number of false positives. For example, most individuals assessed as exhibiting a high risk of recidivism are actually non-recidivists. As a result, some of the measures taken, such as keeping sexual murderers who will not re-offend incarcerated, are both financially costly and ethically and morally questionable. Furthermore, as Mossman (2007) states, "the problems with detecting uncommon events discussed here and elsewhere have led several writers to abjure prediction as intervention method even though they endorse research concerning factors that increase violence." Should we conclude from this that the risk assessment of recidivism is not a useful measure for sexual murderers?

Assessing the risk of recidivism is a useful measure to determine the intensity of treatment required for a particular individual (Andrews & Bonta, 2003). However, such a strategy presupposes the availability of actuarial instruments specifically developed for sexual murderers. This is not the case. The rarity of this type of crime, the length of prison sentences and the low base rates of recidivism explain why there

are no actuarial instruments for sexual murderers. Does this mean that it is impossible to assess the risk or recidivism for sexual murderers?

Recent research has shown that sexual murderers and non-homicidal sexual aggressors exhibit more similarities than differences, developmentally and psychologically (Oliver et al., 2007; Proulx et al., 2007). In addition, situational factors such as victim resistance and presence of a weapon are key determinants of a fatal outcome for the sexual assault (Chéné & Cusson, 2007). Beyond unpredictable situational contingencies, sexual murderers have enough characteristics in common with sexual aggressors to justify the use of instruments developed for these offenders to evaluate their risk of recidivism. These instruments include STATIC-99 (Hanson & Thornton, 1999), STABLE-2007 and ACUTE-2007 (Hanson & Harris, 2007). Obviously such a strategy carries an inherent element of uncertainty, but in the absence of other options, it can be an acceptable solution.

Beyond the risk of recidivism, the most important aspect of assessing sexual murderers involves measuring the factors that could have contributed to their actual offence and that must be taken into account in any therapeutic management approach. Hart (2007) takes this further and holds that it is not useful to estimate the degree of risk of recidivism and that only the assessment and treatment of risk factors are important. In our view, this position goes too far in its rejection of the need to assess the level of risk, for the reasons stated previously. Risk factors were introduced earlier in this chapter, under the section on the theories and typologies of sexual murderers. We will then discuss the assessment methods that make it possible to evaluate these factors. Our position on this point agrees with that of Hart (2007), who states that a "structured professional judgement is decision making assisted by guidelines that have been developed to reflect the state of the discipline with respect to scientific knowledge and professional practice (What information should be gathered? Identify a set of core risk factors?)" (p. 9).

Perkins (2007) proposes an assessment method for sexual murderers based on empirical studies of these offenders as well as his own clinical experience. First, he stresses the necessity of collecting information from diverse sources such as: interviews with the murderer, interviews with those close to the murderer (parents, spouses, friends, employers), police interviews with the murderer, testimony and expert testimony presented during the legal process, psychometric tools, and phallometric and polygraphic assessments. In addition, he underlines the importance of clearly defining the assessment context (e.g., pre-sentencing assessment, early treatment assessment). Lastly, he highlights the importance of conducting a differential assessment. In fact, interviews must reflect the sexual murderer's personality profile (schizoid-avoidant; borderline; antisocial-psychopathic) and the nature of his modus operandi (sadistic, angry, elimination of witnesses). To these general considerations, which are supported by Hart (2007), we can add the importance of assessing not only the recidivism risk factors but also the protective factors (e.g., the individual's strengths and the resources of his environment).

According to Perkins (2007) the most important intervention targets are: low self-esteem, social isolation, sadistic sexual fantasies, and disinhibiting factors

such as alcohol and pornography. Recent studies indicate that the following difficulties could be added to these factors: propensity for anger, difficulty coping with stress, impulsivity and personality disorders (avoidant-schizoid, borderline, & antisocial-psychopathic). Lastly, we could also include neuropsychological deficits, although there is still limited empirical data on the significance of this factor.

With respect to assessment procedures, Perkins (2007) and Hart (2007) propose a multimodal assessment. First, they suggest that the DSM-IV-TR (American Psychiatric Association, 2000) and the ICD-10 (World Health Organization, 1992) diagnostic criteria be used for assessing personality disorders and paraphilias. Also, they stress the necessity of clarifying personality profiles through the use of psychometric instruments, namely the MCMI-III (Millon, Millon, & Davis, 1997), the MMPI-2 (Butcher, Graham, & Williams, 1990), the EPQ (Eysenck & Eysenck, 1975) and the NEO-PRI (Costa & McCrae, 1985). Social isolation and low self-esteem are two characteristics of avoidant personalities that can be indirectly assessed with the help of the MCMI-III. However, precise assessment of these factors actually requires the use of more specialized instruments (Miller's Social Intimacy Scale, Miller & Lefcourt, 1982; Social Self-Esteem Inventory, Lawson, Marshall, & McGrath, 1979; Social Avoidance and Distress Scale, Watson & Friend, 1969). With regard to paraphilias, phallometry can prove very useful in clarifying a diagnosis of sexual sadism, exhibitionism or voyeurism. For sexual sadism, the Marshall and Hucker Sadism Scale (Marshall, personal communication, 2007) is currently the most complete assessment procedure. Another possible avenue for evaluating sexual sadism consists of assessing virtual reality avatars (Renaud, 2007). Perkins (2007) suggests that psychological assessments be completed by the use of instruments evaluating the following factors: cognitive distortions that foster sexual violence, empathy deficits, impulsivity, depression, propensity for anger, and problem-solving skills. Lastly, Perkins underlines the importance of assessing the murderers' intellectual capacity (by means of the WAIS-III, Wechsler, 1997) and neuropsychological deficits.

Although the assessment process proposed by Perkins (2007) is comprehensive, he recommends using the polygraph for "overcoming denial and improve the assessment needs and risk of reoffending" (p. 26). Despite any reservations that may linger about this assessment procedure, we feel that in a clinical context it could encourage a fairer evaluation of a patient's problems and therefore lead to a treatment approach better suited to their needs.

The assessment procedures advanced by Perkins (2007) and Hart (2007) are relevant for assessing the risk factors of sexual murderers. Also, they help establish a treatment plan and a strategy to assess the plan's effectiveness with offenders. We consider that a sexual murderer assessment procedure must also include actuarial instruments such as STATIC-1999, STABLE-2007 and ACUTE-2007, as well as the SORAG (Quinsey, Harris, Rice, & Cormier, 1998).

The foregoing discussion of assessment procedures highlights the difficul-

ties inherent in the study of sexual murderers. Furthermore, as Perkins (2007) and Hart (2007) indicate, it is necessary to adopt a differential approach to not only the assessment, but also the therapeutic management, of sexual murderers.

Treatment of Sexual Murderers

There are no studies specifically addressing the impact of psychological treatment programs on the rates of recidivism of sexual murderers. However, as Carter, Mann and Wakeling (2007) indicate, since sexual murderers exhibit numerous similarities to sexual aggressors of women, any treatment programs that prove effective among sexual aggressors could be adopted for use with sexual murderers. Also, in the absence of evidence on the therapeutic management of sexual murderers, targeted interventions focusing on the factors identified during the clinical assessment constitute another promising avenue (Hart, 2007). This means that the treatment of sexual murderers requires a differential approach (Carter, Mann, & Wakeling, 2007; Hart, 2007). Before discussing the specific details of psychological and psychopharmacological treatments of sadistic and angry sexual murderers, we will present a few general observations on the management of these offenders.

Framework for the Management of Sexual Murderers

The first factor to consider in the management of sexual murderers is the duration of their sentence. In fact, most of these offenders receive life sentences with possibility of parole after 25 years of imprisonment. Such conditions foster a range of extremely intense negative emotions. Some feel such despair that suicide seems to be the only alternative. For others, the length of their sentence can give rise to an intense rage and the feeling they have nothing left to lose. In this case, the murderer is likely to assault staff members and other inmates because he is not afraid of the consequences. Lastly, for other inmates whose incarceration environment provides few sources of gratification, isolation and withdrawal into an inner fantasy world dominated by sadistic rape fantasies may foster severely pathological and undesirable coping strategies.

To reduce the detrimental impact of long-term incarceration, Carter, Mann and Wakeling (2007) suggest intervening from the beginning of the sentence. The main objective at this stage is to improve the sexual murderer's quality of life. Tardif, Dassylva and Nicole (2007) suggest the three following strategies for sadistic sexual murderers: 1) humanizing interpersonal relationships; 2) encouraging acceptance of the real world rather than taking refuge in sadistic sexual fantasies, and 3) developing self-esteem that is not based on illusions of omnipotence. For angry sexual murderers, the authors suggest the following strategies: 1) confronting the negative emotions they feel after committing the offence; 2) learning to appropriately control their anger and loss of self-esteem during conflicts with women. Achieving these

general objectives should foster an improved quality of life for incarcerated sexual murderers as well as more harmonious relationships with other inmates and with staff members. These positive changes should help create conditions favouring the offender's participation in a treatment program for sexual aggressors and are likely to increase motivation for treatment and help forge a therapeutic alliance.

Carter, Mann and Wakeling (2007) formulated a number of recommendations concerning treatment programs focused on the factors related to murderers' sexual offences. First, they emphasize the importance of repeating the program over the course of incarceration, encouraging over-learning. They also note the importance of dissociating administrative tasks from therapeutic tasks. The individuals responsible for the treatment provided should not be those involved in sentence management (e.g., transfer to a lower-security institution, parole recommendations). The staff providing treatment should be formally trained to intervene with sexual murderers; this involves specialized training and supervision. The management and treatment of sexual murderers should be carried out by a multidisciplinary team (e.g., psychiatrist, psychologist, criminologist, nurse).

Differential intervention is another general consideration in the therapeutic management of sexual murderers (Carter, Mann, & Wakeling 2007; Hart, 2007). Psychological and psychopharmacological treatments must be adapted to the specific characteristics of sadistic and angry murderer types. Similarly, the characteristic factors of each sexual murderer should be considered (Hart, 2007). Hart (2007) also suggests intervening in varied ways for each of the risk factors and recommends reducing major sources of stress (e.g., untreated illnesses, death threats from other inmates) in order to encourage readiness for treatment.

Psychological Treatment of Sexual Murderers

Carter, Mann and Wakeling (2007) recommend cognitive-behavioural treatment programs for the management of sexual murderers. This suggestion is justified by two primary considerations: 1) this type of program includes components targeting the entire range of risk factors identified for sexual murderers (sadistic and angry); and 2) empirical studies have shown that this type of treatment program helps reduce the rate of recidivism of sexual aggressors (Alexander, 1999; Hall, 1995; Hanson, Gordon, Harris, Marques, Murphy, & Quinsey, 2002; Losel & Schmucker, 2005). In addition to participating in group therapy and individual sessions, patients must generalize what they have learned to their interpersonal relationships with staff and their visitors.

In the case of sadistic sexual murderers, deviant sexual fantasies are the primary intervention target. These patients therefore require an approach comprising techniques for the modification of sexual preferences. If deviant fantasies constitute a substitute for absent or inadequate interpersonal relationships, interventions targeted at this level are also needed. Training in social skills is a fundamental requirement, to counteract the social isolation of sadistic sexual murderers. In such an intervention modality, the patient can learn how to express his needs and boundaries

while respecting others. However, low self-esteem may deter the offender from using his recently acquired skills (e.g., I can't do anything, that will never work) (McKibben, Proulx, & Lussier, 2001). In this case, individual counselling is indicated to modify the cognitive schemas underlying low self-esteem (e.g., avoidant personality disorders) (Beck, Freeman, & Davis, 2004). Other intervention modules can also be useful in the treatment of the majority of sadistic sexual murderers.

With regard to angry sexual murderers, the primary intervention target is their propensity for expressing anger through violent behaviour. Therefore, the module addressing anger and stress management skills is a basic requirement. During the course of this therapeutic activity, the angry murderer learns to re-examine and question the dysfunctional beliefs at the root of his anger and also acquires the social skills required to express his anger in appropriate ways in situations where that anger is justifiable. In addition, the acquisition of problem-solving skills is important because of the murderers' high levels of impulsivity. In fact, during the sessions in this module, the patient learns cognitive strategies that help him make an appropriate assessment of a given problem and select a pro-social solution. Furthermore, training in social skills is essential because these skills represent pro-social alternatives to violence. Since numerous angry sexual murderers exhibit major alcohol and drug abuse problems, the addictions module is also recommended. Lastly, specific individual counselling addressing their borderline personality disorder (Beck, Freeman, & Davis 2004; Linehan, 1993) would be required to diminish their dysfunctional cognitive schemas.

Psychopharmacological Treatment of Sexual Murderers

According to Carter, Mann and Wakeling (2007), psychological treatment alone is not sufficient to meet the needs of sadistic sexual murderers. In fact, when they return to community, they need psychopharmacological treatment to suppress both deviant and non-deviant sexual urges and behaviours. This type of treatment is aimed at reducing plasma testosterone to pre-pubertal levels. In addition, if the sexual murderer presents brain pathologies, specific medical treatments must be considered.

Pharmacological castration has the advantage of treating several paraphilias at once (Bradford, 2007). In the case of sadistic sexual murderers, this treatment must be administered at maximum intensity. For this reason, Bradford (2007) recommends the use of cyproterone acetate (CPA) or an LHRH-agonist whose effects are equivalent to surgical castration. This drug causes "a complete suppression of gonodatropin secretion and a drastic reduction of plasma testosterone levels" (p. 15). In addition, this drug has calming and anti-aggressive effects. CPA and an LHRH agonist are administered by injection, making it possible for the treatment providers to ensure treatment compliance. Although psychopharmacological intervention is needed for sadistic sexual aggressors, Bradford (2007) also recommends "a cognitive-behavioural treatment program based on a relapse prevention model as well as individual cognitive-behavioural treatment programs as necessary."

Bradford (see Bradford's forum discussion) conducted a follow-up of 12 sadistic sexual murderers in the community. Each murderer was monitored over a period of at least 10 years. The therapeutic strategy selected consisted of pharmacological treatment combined with a cognitive-behavioural approach. None of the studied subjects re-offended. Given the severity of these cases, this outcome is very promising, even in light of the limited sample.

In the case of angry sexual murderers, impulsivity and low self-control (anger) are the central intervention targets. For this type of offender, Mossman (2007) recommends using specific medication to regulate serotonin levels. However, due to the lack of research examining this type of intervention with sexual murderers, its effectiveness has not been clearly established.

Community-Based Monitoring

Monitoring sexual murderers in the community poses a number of problems. First, returning to the community after a long period of incarceration is in itself problematic, regardless of the crime committed. Furthermore, sadistic sexual aggressors gain access to a much larger pool of potential victims. Lastly, external controls are much less strict in the community than in a correctional institution. All these problems pose a considerable challenge for the staff responsible for monitoring sexual murderers in the community.

Sexual murderers living in the community must deal with many stressors and are vulnerable to the reactivation of the pathological schemas that triggered their first sexual murder. Therefore, as Hart (2007) points out, it is essential to monitor risk factors in released offenders. This monitoring must be differential and tailored to the characteristics of each sexual murderer. In the case of sadistic murderers, special attention should be paid to indications of social isolation, threats to self-esteem, and the emergence of deviant sexual fantasies or activities. For angry murderers, the focus should be on alcohol and drug use, and on conflicts with women.

Sources of information should be as diverse and objective as possible. Weekly meetings are not sufficient for an effective follow-up of the sexual murderer. In addition to self-reported data, information must be gathered from the murderer's social entourage, namely his parents, spouse, and work superior if applicable. Physiologically-based measures should also be taken to ensure that the offender does not consume alcohol or drugs. Changes in the murderer's sexual interests can be monitored by regular phallometric assessments. Use of a polygraph can also help treatment personnel verify the information provided by the murderer. As Carter, Mann and Wakeling (2007) indicate, the murderer should be re-incarcerated at the slightest indication of a risk of re-offending.

Treatment should be in line with any therapy program(s) provided in the correctional institution. For example, sexual murderers in the community may be involved in a maintenance group. Individual monitoring is required to encourage generalization of treatment gains in his new social environment. This individual counselling also serves as a source of support and helps breach social isolation. Also,

the sexual murderer can belong to a circle of support (Carter, Mann, & Wakeling, 2007). In addition to psychosocial interventions, appropriate medication, tailored to the type of sexual murderer, helps reduce certain risk factors (e.g., deviant sexual fantasies, impulsivity) and also increases the offender's readiness to fully commit to his rehabilitation process.

Conclusion

In this chapter, we presented theories and typologies of sexual murderers and made recommendations for the assessment and treatment. In spite of its logical consistency, the framework proposed is based on limited empirical evidence. Therefore, it is essential to conduct research projects investigating the causes of sexual murder and the effectiveness of the assessment and intervention methods used with these offenders.

On the basis of the Québec study (Proulx et al., 2007), it is estimated that there are approximately 300 incarcerated sexual murderers in Canada. Given the 70% participation rate obtained by Proulx et al., a nationwide large-scale study on sexual murders appears quite feasible. To date, there are no studies based on such a large sample of sexual murderers. The Correctional Service of Canada's research tradition makes possible this type of initiative, which is uniquely designed to elucidate certain issues left unresolved by previous studies.

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Forum Conclusions by Dr. Proulx

Proulx: My task now is to make a summary, a conclusion, and to review what we've done during the last two days. I will try to highlight the common points and some areas where there is more discrepancy between the speakers. I was struck by the fact that there is a shared view among the people here with regard to evaluation, theory, assessment and treatment.

I want to give you something from my own experience with sex offenders. What struck us is that our sample showed only two cases of serial sexual murderers. Out of 60, two of them had more than two victims. We looked for other samples and we found that serial sexual murderers are responsible for 20% of the victims, but they represent only 2% of sexual murderers. We tend to miss part of the picture, the sexual murderer who kills only one time. We compared sexual murderers to sexual aggressors. There were not many differences between the two groups, but constantly, sexual murderers have a little bit more sexual victimization, exposure to violence and problems in school. The only area where they clearly have more problems is sexual problems. They differ from the sexual aggressors on early sexually deviant fantasies. The sexual murderers have higher scores on almost all factors. What we find from developmental factors is that it's not only one factor, but it's a combination of several factors where sexual murderers have a more inadequate environment when they are growing up. Three main factors emerged from the comparison of sexual murderers to sexual aggressors of women: social isolation; low self-esteem; and deviant sexual fantasies. It fit quite perfectly with the model that Dr. Arrigo presented.

As to the personality disorders, we concluded that sadistic sexual murderers have avoidant-schizoid personality profiles. Finally, another aspect that we looked at was situational factors. Strong predictors differentiated sexual murderers from sexual aggressors were situational factors such as pre-crime anger, pre-crime alcohol, use of a weapon, and level of victim resistance. The best predictors of murder were the situational factors. Some developmental factors like early sexually deviant fantasies, and social isolation were still significant in the model but the stronger predictors were situational factors. As for assessment, the one thing that is clear is that all speakers talked about assessment first, and highlighted the fact that we cannot predict with accuracy sexual murder because it's such a rare event.

The differential approach that Dr. Perkins presented this morning is important in the way we interview the offender. If we look to the list of factors that are crucial, that have potential to be included in the model, it's not two or three factors but a wide

variety of factors. There is no definitive conclusion to this point regarding the way to integrate all these factors into a final conclusion as to risk. The presence of many factors favours a high-risk diagnosis, but as Professor Hart was saying, there may be a single overriding factor that may push us to conclude that the offender is a high-risk. When it comes to treatment, a few aspects have to be considered. It's quite important to not only reduce sexual arousal but to give quality of life to these offenders. We must also give these people skills to highlight their quality of life, including helping them to develop a social network. This can be accomplished through intense follow-up in the community, not leaving them alone without support and providing treatment in institutions and in the community that focuses on the Good Lives Model.

Schweighofer: Some time ago I read one of Dr. Bradford's papers and he discussed using Viagra in select cases. That always raises an eyebrow with parole officers. Dr. Bradford, what are your criteria in these cases?

Bradford: We all like sex, men and women like sex, it's important to our well-being, sex is a biological drive. I have moved – and I think the profession has moved – away from creating asexual individuals. The question is how much control you need to manage risk, but at the same time allowing some sexual activity. It's a balance. Some of my colleagues are a little more risk averse than I am and maybe that's got to do with experience. I've been able to titrate people so that they remain sexually active even though it's at a low level. If you have a person who has an intimate partner and a sense of togetherness and generally good feelings, how do you allow them to become sexually active for their own well-being without taking a risk? One of the ways is through Sildenafil Citrate (i.e., Viagra). The advantages are that there is contact with the intimate partner and disclosure and all of those things. You allow somebody to be sexually active for a short period of time – it only lasts about an hour or so. If you do it in a controlled way, it's pretty safe. There are some medical issues with heart problems and all that but you can get beyond that stuff. I personally prefer the titration method, but using Viagra is another way of doing it.

Barsetti: We have been discussing a very specific case involving paraphilia. He had been diagnosed, to my knowledge, as necrophilic, as a sadist, and as a necrosadist. Is there a distinction between different diagnoses? I've never seen necrophilia being associated with specific risk while sadism seems to be.

Hart: In general, it doesn't look like necrophilia is associated with increased risk for violence. Most cases of necrophilia seem to involve attraction to humans that

were already dead. However, there certainly seems to be a number of cases where necrophilia in combination with sexual sadism appears to be a very bad combination because people are willing to hasten the process. They enjoy, in a sense, the before, during, and after of the killing. That's exactly why we have to individualize assessments. To have somebody who's having fantasies that involve killing, to feel aroused, that those are ego syntonic or sexually arousing, that's a very bad sign. That's the kind of thing we would agree should trigger a high level of concern even in the absence of other known risk factors.

Sutton: There has been a lot of issues raised about assessment tools for certain groups of individuals, whether it is ethically appropriate to use them. There is resistance with the use of risk assessment instruments with women and Aboriginal population.

Harris: The problem with culture is that we run into the old problem of having greater variance within than between. The fact remains that there has not been any data showing significant cultural differences on risk assessments across cultures. We are unlikely to get that simply because, as I state primarily, there is almost invariably greater variation within than there is between various groups.

Hart: I accept that there can be some problems with using standardized assessment instruments in various groups because you can actually end up engaging in practice that appears, at least on the surface, to be discriminatory. And there are some problems with using any kind of a statistical instrument in new populations without understanding how well it works, because it might not work for unknown or unpredictable reasons. That's always a concern. There's less of a concern with that if we try to rely on what we think is a good individualized dynamic formulation as Dr. Perkins was describing it. As much as we like to talk about differences in cultural expression of mental disorder, if paraphilia is a mental disorder, I can tell you that there's no culture on earth where it's considered normal, good, acceptable or healthy to have a stable sexual preference for sex with the dead. It's a mental disorder. Now, culture can change the expression of certain symptoms, this is known as pathoplastic. Culture changes the expression of schizophrenic symptoms, of depressive symptoms, and I'm certain of paraphilic symptoms. But it does not create the appearance of paraphilia where none exists. I would have had confidence saying that it doesn't matter whether you're Aboriginal or not, those kinds of symptoms are warning signs that represent a significant and serious mental disorder raising serious concerns about potential for harm. We can't use culture to try to explain away something that looks like simple, out and out, mental disorder.

Bradford: Basically if it looks like a duck and quacks like a duck, it's a duck. I've gone to lots of international meetings, I've been in lots of discussions and necrosadism is abnormal where ever it comes from. There is an interesting book written by Tom O'Carrol (1980)[1] and it's called "Pedophilia: The radical position". It's written by a person who is a pedophile trying to justify pedophilia in sort of cultural and other means and actually it's interesting because he fails in a lot of ways. If you really understand it, pedophilia is not normal anywhere in the world. You can try and justify it any other way and it's the same with sadism and all those things. To me this is all a smoke screen. It's sad that we get sucked into this, and what we really should be concentrating on is trying to help the Aboriginal population with their substance abuse problems. But to put it all as cultural or not being sensitive, it's just a complete smoke screen.

Schweighofer: Our British colleagues have noted the use of polygraph. We know it's fairly common in the US. Should we revisit or perhaps reexamine the use of polygraph in select high-risk cases in the community?

Hart: I can see several circumstances under which it would make sense. It doesn't have to be an issue of forcing people to do things. You can actually get them to volunteer to it. Lots of people actually want to. I've talked to people who've failed polygraph tests despite the fact that they claim innocence, but then use that to actually try and figure out what problems they were having. They took failing the polygraph as a bad sign – I must have been feeling guilty about something. And, OK, I didn't act out but maybe was I maybe fooling myself about that I wasn't having these fantasies? The polygraph can be an excellent instrument in treatment.

Proulx: A few years ago I was in England and Dunruben presented about polygraph. He compared two groups in the community. One group had a random polygraph evaluation, and the other one had no polygraph evaluation. The group with the random polygraph evaluation had a lower recidivism rate. It's not only the polygraph but also the possibility of the polygraph favouring more conformity to the law. With the high-risk offender, it's a good idea to use this.

Looman: Actually, Bob McGrath from Vermont presented a similar study and found that there were no differences between the groups.

[1] O'Carrol, Tom. (1980). *Pedophilia: The radical case*. Contemporary Social Issues # 12. London: Peter Owen.

Perkins: Issues in the Dunruben study was the way in which the polygraph was viewed by the offenders who were wanting to deal with their offending. They were saying it was something they found useful as an aid for self-control because they knew they were going through the polygraph and if they were appropriately motivated, at that stage, the polygraph was something helpful to them. Not just catching them out but it was also keeping them on the straight and narrow.

Bradford: Polygraph contributes to the management of high-risk people, it's all part of a similar package of monitoring and any tool that will help you with risk management and with high risk people is helpful. It might have a psychological effect; "big brother's watching me", I don't really care what it is. In a certain group of high risk people it would have been useful. I don't think it should be done routinely in everybody, but we all know who high risk people are and it could be helpful.