Homicidal Sex Offenders: Psychological, Phallometric and Diagnostic Features

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ABSTRACT

Homicidal sex offenders represent an understudied population in the forensic literature. Forty-eight homicidal sex offenders assessed between 1982 and 1992 were studied in relation to a comparison group of incest offenders. Historical features, commonly used psychological inventories, criminal histories, phallometric assessments and DSM diagnoses were collected on each group. The homicidal sex offenders, compared to the incest offenders, self reported they had more frequently been removed from their homes during childhood, and had more violence and forensic psychiatric contact in their histories. On the self report psychological inventories the homicidal sex offenders portrayed themselves as functioning significantly better in the areas of sexuality (Derogatis Sexual Functioning Inventory) and aggression/hostility (Buss-Durkee Hostility Inventory). However, on the Psychopathy Checklist-Revised (PCL-R), researchers rated the homiciders significantly more psychopathic than the incest offenders on Factor 1 (personality traits) and Factor 2 (antisocial history). Police records revealed the homicidal subjects also had been charged or convicted of more violent and non violent non sexual offenses. The phallometric assessments indicated the homicidal sex offenders demonstrated the highest responses to any pedophilic stimuli and were significantly more aroused to stimuli depicting assaultive acts to children. Despite, the homiciders self reports of fairly good psychological functioning, DSM-III diagnoses reliably discriminated between the groups. A large number of homicidal sex offenders were diagnosed as suffering from psychosis, antisocial personality disorder, paraphilias, sexual sadism, sexual sadism with pedophilia, and substance abuse. Seventy-five percent of the homicidal sex offenders had three or more diagnoses compared with 6% of incest offenders. The discussion addresses the role of “hard” vs “soft” measures in the assessment and treatment of violent sex offenders. In addition the usefulness of phallometric assessments and the PCL-R and its subscales are considered.

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Homicidal sexual offenses, although relatively infrequent, are highly sensationalised by the media[1]. In Canada, 3% of homicides were classified as sexually related between the years 1985 and 1995[2]. Due to the small number of sexual homicides it has been difficult to collect sufficient cases to generate the large databases required for psychological investigations[3,4]. Nevertheless, despite their relative infrequency, the study of sex killers is important because of the heinous nature of this type of crime, the trauma it inflicts on families and communities, and the fact they comprise a subset of serial sex offenders against strangers, most frequently women and children [5,6].

Most publications concerning sexual murderers are based on clinical interviews, which lack the use of control groups[7,8,9], and the largest number of publications emanate from the Federal Bureau of Investigation where the National Center for the Analysis of Violent crime (NCAVC) has collected information on a large number of sexual offenses[10,11,12]. Although there are several descriptions of the personality characteristics and diagnoses of these offenders, the formulations are often based on file information, self-reports, and non standardized psychological assessment tools. This has lead to a lack of stringency in making any determinations[3,4]. As an example, some writers have reported many sexual murderers are psychotic[13], while others report psychoses to be a rarity[14]. Langevin, Paitich, & Orchard[15] suggest the type of diagnosis may well be a function of the setting in which the diagnosis is made. Nevertheless, the literature indicates the major factor distinguishing sexual murderers from other types of murderers is these types of offenders frequently focus on sexually sadistic acts in order to achieve sexual excitement [4,6,7,10,14,16]. The sexual component is also frequently accompanied by multiple sexual perversions [6,7,17]. There have also been indications homicidal sex offenders have histories that

include hostile and aggressive parents[4,10] , have suffered from child sexual abuse[11], and have histories of living in families without stability[10]. Brittain**7** suggested that sadistic murderers are often single, yet he doesn't offer any numerical data to validate his statement.

Langevin et al.[6] in an interesting controlled investigation, compared 13 sex killers, 13 nonsex killers and 13 nonhomicidal sexually aggressive men. This study used many conventional psychological, neuropsychological and phallometric measures and revealed the three groups of offenders were more similar than different. Nevertheless, several differences were apparent. Compared to the other groups, the sex killers victimized strangers more frequently, were more frequently diagnosed as having antisocial personality disorder as well as a higher incidence of sexual sadism. Furthermore, they showed more deviant phallometric responses to sexually sadistic stimuli. The serious nature of the crimes committed by all three groups suggests they were all fairly disturbed so it is not surprising more differences were not found.

The present study attempts to expand the aforementioned body of knowledge by studying 48 homicidal sex offenders (HSO), utilizing several standardized assessment tools commonly used in sex offender research as well as documented evidence from law enforcement files. In lieu of a normal control group, a clinical comparison group of 50 incest offenders (IO) was included. Incest offenders were chosen since they comprise a significant portion of men assessed at most specialized sexual behavior clinics and are a fairly well studied group of sex offenders.

Method

Subjects

All subjects were assessed at the Royal Ottawa Hospital, Sexual Behaviors Clinic, which serves as the major assessment unit for Eastern Ontario and as a teaching hospital for the University of Ottawa. This research unit has been systematically collecting information on all patients since its inception in 1982. All subjects were 18 years of age or older at the time of their offense. The homicidal sex offenders (HSO) were 48 men referred by the courts or during early incarceration for a sexual behavior assessment, so the results are not confounded by treatment effects. Documentation indicated they had committed or attempted a sexually motivated homicide. Eight subjects were convicted of murder and mutilation, 20 with murder, and 20 with attempted murder. The incest offenders IO were selected by choosing the next subject in the charts, within six months of age compared to the index homicidal offender. Their referral pattern for assessment was generally similar to the HSO.

Procedures

The assessment process at the SBC routinely includes several components. Typically, upon arrival at the clinic, a psychiatric interview is conducted by a staff psychiatrist. After a second interview a diagnosis is made according to the Diagnostic and Statistical Manual of Mental Disorders[17,18]. During the interviews, the subject's written consent was obtained for completion of all questionnaires and phallometric testing. Demographic data collected included age, marital status, education and employment status. The number and gender of their victims, history of suicidal behavior, family historical features, and previous history of physical violence was also collected. The perpetrator's self-report of the degree of sexual violence was rated by the clinician on an incremental three point scale (hereafter called Sexually Aggressive Scale, SAS): 1, attempt or touching (fondling, masturbation, and/or kissing); 2, serious assault (genital and/or anal penetration); 3, sexual assault with excessive

violence (use of violence, weapons, and/or mutilation of body). Corroborating information was generally available from police reports and witness statements. The diagnoses were made prior to phallometric or psychological testing.

Sexual Functioning

The Derogatis Sexual Functioning Inventory (DSFI) is designed to assess general and specific dimensions of sexual functioning[19,20]. Therefore, the DSFI collects information using numerous items at once in order to grasp "the fundamental components judged essential to effective sexual behavior" [20]. The 10 sub-scales are as follow: 1. Information assesses individuals' knowledge of sexual anatomy, psychology, and behaviors using 26 true-false items. 2. Experience assesses individuals' past sexual experiences using a list of 24 sexual behaviors. Furthermore, the individuals are asked if those behaviors experienced were recent (i.e., in the past 60 days). 3. Sexual Drive assesses individuals' age which they began having sexual interests and intercourse. In addition, individuals were asked to indicate frequency ratings for sexual intercourse, masturbation, kissing and petting, sexual fantasy, and ideal frequency of intercourse in order to yield an overall measure for sexual drive. 4. Sexual Attitude assesses the respondents' attitudes concerning sexual behaviors using a 5 point scale (ranging from -2 to 2). Low scores represent a conservative point of view. Higher scores are more liberal and are considered positive for healthy sexual functioning. 5. Psychological Symptoms also known apart from the DSFI as the Brief Symptom Inventory (BSI) is a multidimensional measure reflecting symptoms of distress on 9 primary dimensions although only one of the 3 global indices (Global Severity Index) contributes to the DSFI profile. 6. Affect also known as the Affect Balance Scale (ABS), measures a wide range of negative emotions via a 40-item adjective check list. 7. Gender Role Definition reflects

the degree to which respondents polarize their definitions of masculine and feminine. More polarized are considered more rigid and these individuals are prone to unfulfilled expectations and difficulties with sexual functioning. 8. Sexual Fantasy consists of 20 sexual fantasy themes and the score is simply the number of the themes endorsed by the respondents. 9. Body Image consists of 10 general body attributes and 5 gender specific features **which** respondents rate according to how satisfied they are with themselves. 10. Satisfaction consists of 10 items reflecting the individuals' level of sexual fulfilment. The Sexual Functioning Index (SFI), is a global measure derived by summing the 10 subtest scores and thus provides an overall measure of an individuals' level of sexual functioning.

The DSFI has been used with large non-forensic samples. Its use with sex offenders is limited. In Pawlak, Boulet, & Bradford[21] using the DSFI, extrafamilial child molesters endorsed more fantasy themes than did the incestuous offenders. However, incestuous offenders scored higher on experience and satisfaction. There is some suggestion sex offenders show high levels of sexual dissatisfaction[22]. In an unpublished study at our clinic, all DSFI subscales except the Sexual Fantasy, distinguished a group of rapists who admitted to their crimes from a normal control group. In each instance the normal control group indicated better functioning[23]

Hostility

The Buss-Durkee Hostility Inventory (BDHI) contains 75 True-False statements which provide a measure of seven constructs representing general hostility. The BDHI consists of five assault subscales- Assault (physical violence against others); Indirect Aggression (devious hostility like gossip); Irritability (quick temper, ready to explode at slight provocation); Negativism (usually oppositional behavior against authority, refusing to cooperate); Verbal Aggression (express negative feelings in

content and style, e.g., shouting)- designed to measure aggressiveness; and two hostility subscales; Resentment (jealousy, anger at the world over mistreatment) and Suspicion (projection of hostility onto others). An additional construct captured by the BDHI is Guilt, reflecting the degree of guilt feelings reported by the subject. This scale is part of the inventory but not included in the Total Score. There is a substantial body of construct validation evidence to support this widely used inventory[24,25,26,27]. A total score of 38 and above is considered high according to Buss and Durkee[24]. Research has found that among sex offenders, BDHI scores for violent rapists have been significantly higher than those for non-offending controls[28]. In an unpublished study at our clinic, comparing a group of rapists who admitted to their crimes and a normal control group, the scales of Indirect Aggression, Irritability, Resentment, Suspicion, Guilt and the Total Score distinguished the two groups. In each instance rapists rated themselves as demonstrating more hostility[23].

Alcohol Abuse

The Michigan Alcoholism Screening Test (MAST), which is used in the general population to identify incidence or behaviors indicative of alcohol abuse[29,30], was included to examine alcohol abuse among both groups. It is a self-report inventory containing 24 items which represent the common signs of alcoholism such as work problems due to alcoholism, medical problems associated with alcoholism and alcohol withdrawal symptomatology[31]. The validity and reliability of this instrument is well establish[29,31]. The internal consistency has a reported overall alpha coefficient of 0.87 and a validity coefficient of r=0.79 (gamma = 0.95), and is relatively unaffected by age or denial of socially unacceptable characteristics[32,33]. Respondents answer "yes" or "no" to each of the items. Degree of problem associated with alcoholism is reflected in the total number of "yes" responses. Total scores of

5 or 6 are considered suggestive of alcohol problems and a score of 7 or more is considered strongly indicative of alcohol abuse[34]. The MAST has been found to correlate with DSM III R criteria for alcohol dependence[33]. The MAST has been extensively used as a screening tool for alcoholism, and many studies have utilized samples of sex offenders[28,34,35,36].

Psychopathy

The Psychopathy Checklist-Revised (PCL-R) consists of 20 clinical rating scales designed to assess behaviors (e.g., impulsivity; promiscuous sexual behavior; criminal versatility) and personality characteristics (e.g., glibness/superficial charm; grandiose sense of self worth; callous/lack of empathy) considered fundamental to psychopathy[37]. Rigorous testing has indicated that the PCL-R is a psychometrically sound instrument; the reported alpha coefficient, aggregated across 7 samples of incarcerated males from Canada, the U.S. and England was .87[38]. Valid PCL-R ratings can be made on the basis of high quality archival information[39,40]. The PCL-R is beginning to receive widespread use in sex offender research[41,42]. In both Harpur, Hakstian, & Hare[43] and Hare, Harpur, Hakstian, Forth, Hart, & Newman[44], the existence of two factors was replicated using various samples: 1) the degree of personality, interpersonal, and affective traits deemed significant to the construct of psychopathy (i.e., glibness/superficial charm, grandiose sense of self-worth, pathological lying, conning/manipulative, lack of remorse or guilt, shallow affect, callous/lack of empathy, failure to accept responsibility for own actions); and 2) the degree of antisocial behavior, unstable, and corrupted lifestyle (i.e., need for stimulation, parasitic lifestyle, poor behavioral control, early behavior problems, lack of realistic goals, impulsivity, irresponsibility, juvenile delinquency, revocation of conditional release). Three items (i.e., promiscuous sexual behavior, many short term-relationships, criminal versatility) failed to exceed

significance on either factors[43,44]. In Hare et al.[44], using 5 prison samples (N=925) and 3 forensic samples (N=356), the correlation between the two factors averaged .48. Previous studies have found the interrater reliability and internal consistence of both factors to be high despite the small number of items per factors[43,44,45].

In the present investigation the PCL-R was completed from descriptive material contained in institutional files by two research assistants. The PCL-R was scored as specified in the test manual[45] including the use of extensive file information, collateral sources and prorating for missing items. The PCL-R was scored only from files, as permitted in the test manual where there are high quality archival data, by two individuals fully trained in the use of the PCL-R. A random sample of 100 clinic files were independently rated by each researcher, resulting in statistically significant interrater reliability correlation $r=.88$, $p<.0001$.

Criminal Offense History

Previous offense information was gathered from the Canadian Police Information Center (CPIC) at the Ottawa Police Station, a national data base of criminal arrests and convictions including INTERPOL reports from the Royal Canadian Mounted Police. Records were matched to individual subjects according to name, date of birth, and index offense particulars. CPIC records contain the individual's criminal history and include details such as the date of charge or conviction, the nature of the offense, the disposition of the incident (i.e., convicted, charges withdrawn, stay of proceedings, etc.) and sentence/penalty imposed in cases of convictions.

Measurement of Sexual Arousal

Sexual arousal was measured using equipment manufactured by Farrell Instruments. Changes in

penile circumference in response to audio/visual stimuli were measured by means of an Indium-Gallium strain gauge and monitored by a CAT200. These data were then processed in an IBM compatible computer for storage and printout.

Stimuli Presentation: The order of stimuli presentation, held constant for all subjects, is computer controlled, using MPV-Forth, version 3.05 software provided by Farrell Instruments. Videotapes are presented first, using a Toshiba VHS Video Cassette Recorder, and are viewed on a Hitachi 14" color screen. The second stimuli set to be presented are slides, projected via a Kodak Echtographic slide projector onto a 40 X 40 screen. Finally, subjects are presented with one or more of three series of audiotapes, according to the nature of the subject's sexual offense.

Audiotapes: Audiotapes consist of vignettes[46] of approximately 120 seconds in duration which describe sexual activity varying with respect to age, sex, and degree of consent, coercion and violence portrayed. Each subject is presented with a full set containing one vignette from each category following instructions to respond normally, that is to become aroused if he feels aroused. The female child series consists of descriptions of sexual activity with a female partner/victim for eight categories. The male child series consists of eight corresponding vignettes involving a male partner/victim but also includes one scenario involving an adult female partner. For each of the female child and male child series, two equivalent scenarios for each category are included. Categories are: 1) child initiates; 2) child mutual; 3) non-physical coercion of child; 4) physical coercion of child; 5) sadistic sex with child; 6) non-sexual assault of child; 7) consenting sex with female adult; 8) sex with female child relative (incest). The audiotape series used to identify sexual attraction to rape includes two scenarios of two minute duration for each of three categories: 1) consenting sex with adult female; 2) rape of adult female; 3)

non-sexual assault of adult female.

Scoring: The Pedophile Index is computed dividing the highest response to the child initiates or child mutual stimulus by the highest response to an adult consenting stimulus. The Pedophile Assault Index is computed dividing the highest response to an assault stimulus involving a child victim (non-physical coercion of child, physical coercion of child, sadistic sex with child, or non-sexual assault of child) by the highest response of the child initiates or child mutual stimulus. The Rape Index is computed by dividing the highest response to a rape stimulus by the highest response to an adult consenting stimulus. The Assault Index is computed by dividing the highest response to a non-sexual assault stimulus by the highest response to an adult consenting stimulus.

Results

As indicated in Table 1, the matching between the two groups was successful and resulted in no significant differences between the HSO and IO on age or IQ. Neither was there a difference in the proportion of HSO versus IO admitting to their index offense (73.3 vs 80% respectively). Not surprisingly, a greater proportion of the IO had been married compared to the HSO (84 vs 30.2% respectively). On the historical reports the HSO, compared with IO, rated themselves higher on Previous History of Violence (82.2 vs 36.6%), Previous Forensic Contact (77.3 vs 12.2%) and Placed Outside of the Home <16 (61.1 vs 28.3%).

INSERT TABLE 1 ABOUT HERE

The results of the psychological tests are presented in Table 2. On the Derogatis Sexual Functioning Inventory, the HSO scored higher than the IO on the subscales of Information, Sexual Attitude, Psychological Symptoms, Affects, and on the Sexual Functioning Index (42.30 and 37.27,

41.13 and 37.14, 46.63 and 40.55, 43.76 and 38.11, 36.58 and 30.00 respectively). These results suggest the HSO compared to IO have better general knowledge about sex (Information), have more liberal sexual attitudes (Sexual Attitudes), show more desirable levels of affect (Affects), and generally function more positively in the realm of sexuality (Sexual Functioning Index). In addition, the HSO endorse fewer items indicating they are experiencing general psychological distress than do the IO (Psychological Symptoms). In essence, the results on the DSFI, which is a self-report measure, suggest the HSO function better sexually and are suffering less psychopathology than the IO.

INSERT TABLE 2 ABOUT HERE

The results on the Buss-Durkee Hostility Inventory also suggest the HSO are functioning better than the IO. The IO scored significantly higher than the HSO on the factors of Assault, Irritability, Suspicion, Guilt, and on the Total Score (4.29 and 3.04, 5.02 and 3.79, 4.71 and 3.23, 5.90 and 4.67, 31.12 and 26.23 respectively). These differences suggest the HSO, compared with the IO, are less willing or likely to use physical violence (Assault), are less irritable (Irritability), are more trusting of others (Suspicion), feel less free floating guilt (Guilt), and are generally less hostile (Total Score).

A statistically significant difference between the groups was not evident on the Michigan Alcohol Screening Test.

Unlike the other psychological inventories, the psychopathy ratings were more consistent with previous research. The HSO were rated higher than the IO on Factor 1, Factor 2 and the Total Score (means of 12.57 and 9.02, 13.57 and 7.34, 26.58 and 18.71 respectively). It was clear the HSO were considered to display more psychopathic personality characteristics (Factor 1) and had a greater history of antisocial behavior (Factor 2) compared to the IO.

INSERT TABLE 3 ABOUT HERE

Table 3 reveals, as indicated by the significant difference on Serious Assault, a higher percentage of IO than HSO committed sexual acts which included anal and/or vaginal penetration, but went no further (65.3 vs 17.1 % respectively). This was reversed in Assault with Excessive Violence in which over 70% of the HSO group used excessive violence, weapons and/or mutilated their victims compared to 8.2% of the IO.

The CPIC data indicated a significantly greater proportion of the HSO, compared to IO, had been charged or convicted more than 3 times for non-violent non-sexual acts prior to the index offense (47.5 vs 24%) and, on average, had more such events on their records (means of 4.8 and 2.3 respectively). The same pattern was evident for violent offenses in that 45% of the HSO compared to 14% of the IO had been charged or convicted of violent offenses with means of 1 and .3 respectively. Overall, the analyses revealed the HSO had significantly more criminality in their histories. A significantly greater proportion of the HSO had three or more charges, compared with the IO (55 vs 30% respectively) and they had more charges as well (means of 6.4 and 2.8 respectively).

INSERT TABLE 4 ABOUT HERE

Subjects were assigned to various phallometric assessments based on the age of their victims and/or clinical questions, resulting in HSO being assessed with different stimuli. In the HSO, the completed phallometric assessments were as follows: 21 men with only adult victims (7 received adult and child stimuli, 14 only adult stimuli), 17 men with only child victims (15 received adult and child stimuli, 2 only adult stimuli), 7 men had adult and child victims (6 received adult and child stimuli, 1 only adult stimuli). Table 4 presents the results of the assessments for the offender groups. Subjects who

demonstrated less than a 5% response to a stimuli were not included in the analyses. The statistically significant differences between the groups indicated the HSO, compared with the IO, were more sexually aroused to stimuli depicting assaultive acts towards children (Pedophile Assault Index) and they also demonstrated the highest responses to any pedophilic stimuli (Highest Pedophile Index). No significant differences were evident on other phallometric measures.

INSERT TABLE 5 ABOUT HERE

Table 5 presents the DSM diagnoses of the offender groups. It is important to keep in mind these diagnoses were made by psychiatrists prior to having the psychological test scores or phallometric assessment results, generally by the end of the second session. Significantly more HSO than IO were diagnosed as having a Psychosis (14.6 vs 0%), any Personality Disorder (52.1 vs 4%), Antisocial Personality Disorder in particular (35.4 vs 0%), any Paraphilia (79.2 vs 24%), Atypical paraphilias (22.9 vs 0%), and Sexual Sadism (75 vs 2%). More HSO than IO demonstrated comorbid Pedophilia and Sexual Sadism (39.6 vs 2%). The HSO, compared to IO, showed significantly higher rates of any Substance Abuse (39.6 vs 6.0%), Alcohol Abuse (27.1 vs 6.0%) and Drug Abuse (22.9 vs 4.0%). The HSO had significantly more comorbidity than the IO. Seventy-five percent of the HSO demonstrated three or more diagnoses compared with 6% of the IO.

Discussion

The results of the current investigation, in which incest offenders were used as a comparison group, presents a mixed picture of HSO, and may be quite instructive. In no way minimizing the seriousness of incestual offenses, there is no doubt the index offenses of the HSO were more serious than the IO. In fact, it is hard to imagine offenses that are more heinous than sexual assaults that include

violence, torture, mutilation and ultimately murder. It would be even more difficult to envisage the men who commit such crimes to be relatively indistinguishable from the average person. Yet, in many ways the results of the present study suggest the HSO did not differ from the IO, and in fact might be functioning even better than this group of offenders. However, reconciliation of these discordant notions concerning HSO is possible if one groups the results of the study on the relative veracity or immutability of the measures used.

The results in this study may be divided into those based on measures which are largely self report, generated in a conscious manner by individuals and those that are, too a greater extent, based on information that is less prone to distortion. The demographic types of characteristics of the subjects based solely on self reports, not surprisingly, indicate the HSO were married less frequently than IO. The 30% marriage rate for this group is lower than the rates of marriage reported by other researchers of sexual murderers (43.3%[47]; 47%[6]; 47.6%[7]; 50%[2]). Furthermore, it is even lower than the Canadian national rate for 1995 of men in their thirties that have ever been married, which is reported to be approximately 75.6%[2]. Never having married and histories of violence and forensic psychiatric contact have been related to homicidal sex offending by others[10,47], and are three of the factors most highly correlated with violent and sexual recidivism[40,48]. Of particular interest is the indication that HSO have been removed from their family home at an alarmingly high rate. Fully two-thirds of the HSO claim to have been removed from their family prior to 16 years of age. There is no other evidence they had more dysfunctional families than the incest offenders. Nevertheless, the very high rates of family violence, physical abuse, and parental substance abuse in both groups is disturbing. One presumes, even if there is no difference between these two clinical groups, these rates are well above what is found in the average

community. These findings support the contention that sex offenders in general come from disturbed homes[4,10,41]. It is unclear however, what factors may have resulted in the HSO being removed from their homes more frequently than the IO. Conceivably, even though for both group of offenders the home environment was very poor, HSO displayed higher rates of aggressive behaviors resulting in their removal from the family. The greater probability of diagnosed antisocial personality disorder and their higher incidence of self reported violence is supportive of this contention. Furthermore, there is evidence from other indicating rapists have been more aggressive during adolescence than other sex offenders[41,48].

The three self report psychological inventories used in the present investigation resulted in rather surprising differences between the groups. It should be pointed out these assessment tools were not developed for use with forensic populations in general, and certainly not for use with sex offenders being assessed during court proceedings or while incarcerated. On the DSFI, the HSO rated themselves as functioning significantly better than the IO in the realm of sexuality and general psychological well being. The same was true for the BDHI on which they reported they function better than the IO in most domains related to frustration and stress, and their by-product of hostility. In fact, the only ratings even approaching the problematic range are Suspicion and Guilt for the IO. The MAST did not distinguish between the two offender groups. Interestingly, the one inventory that did indicate more pathology in the HSO than the IO was the PCL-R, which was completed solely on material contained in the clinic files. The HSO were rated significantly more pathological on Factor 1, commonly associated with psychopathic personality traits (e.g. glibness, superficial charm, lack of remorse or guilt, shallow affect, lack of empathy), and Factor 2 which is related to antisocial behavior and/or criminal life styles (e.g. antisocial behavior, parasitic lifestyle, poor behavioral control, early behavior problems, juvenile

delinquency, revocation of conditional release). The PCL-R Total Score of 26.58 places the HSO at the 78th percentile for male forensic patients and 63rd percentile for male prison inmates[45]. It is instructive to note their Factor 1 Score of 12.57 places them in the 90th percentile for male forensic patients and 85th percentile for male prison inmates. The corresponding percentiles for their score on Factor 2 are 70th and 60th percentile respectively. These figures reveal HSO, compared to other pathological and criminal populations, show relatively greater personality disturbances than criminal behavior. One might speculate this very high degree of psychopathy evidenced by the HSO is predictive of the lack of insight, shallowness and/or a manipulative stance that lead to their relatively positive self reports on the other psychological inventories used in the current study.

The utility of phallometric measures in the assessment and treatment of sex offenders has become a controversial issue. There is evidence for and against the ability of phallometric measures to discriminate between normal and offender populations, or between various offender populations[39,49,50,53]. A recent meta analysis suggests phallometric assessment is one of the more reliable predictors of recidivism with child molesters, supporting its utility with this groups at least[54]. In the present investigation it was only the measures related to sexual arousal to children that were able to distinguish HSO and the IO. This supports the notion that phallometric measures may show greatest discriminative ability with extrafamilial child sex offenders. Future research separating homicidal sex offenders into more homogeneous groups based on age and gender of victims would provide valuable information on the role of phallometric assessment with these populations. Unfortunately, insufficient numbers of subjects precluded these analyses in the present investigation.

The analyses of the DSM diagnoses indicate the HSO were seen as significantly more

pathological than the IO. Fifteen percent evidenced psychosis, over 50% demonstrated personality disorders, and 35% were diagnosed as having antisocial personality disorder. In the realm of the paraphilias, the HSO demonstrated a great deal of deviance and comorbidity across the various paraphilias (e.g. sexual sadism and pedophilia). This increased rate of paraphilic comorbidity has been reported previously for rapists[46] and sex murderers[6]. Despite the lack of self reported substance abuse problems between the groups on self report measures, approximately five times as many HSO were given DSM diagnoses related to these problems when compared to IO. Another indication of the extent of multiple diagnoses within the HSO was that 75% of these men received three or more diagnoses compared to only 6% of the IO. Some caution is required in the interpretation of the results of the present investigation. The psychiatrists and research assistants were not blind to the group membership of the individuals under consideration. The index offense of homicide might well influence the DSM diagnoses and the PCL-R ratings. However, the behavior involved in the commission of the index offense cannot be disregarded, and thus will inevitably constitute a potential confound. Nevertheless, the measures not amenable to distortion (e.g. CPIC, phallometric) were generally supportive of the aforementioned findings upholding their accuracy. The fact that 17% of the homicidal group were considered psychotic should also be considered. The paucity of research in this domain does not allow comment as to whether this is an over-representation, due to the sample being hospital based, or is representative of homicidal sex offenders in general.

In summary, the results of the present investigation suggest HSO demonstrate several features that make them a high risk population prior to their homicidal acts and demonstrate the utility of several

objective measures available to most clinicians. Police information reveals they have a high incidence of violent and general criminal offenses prior to their homicidal acts. In fact, one is left wondering what percentage of the documented non violent and violent charges were actually related to sexual offenses, but through lack of evidence or plea bargaining resulted in changed or reduced charges. In addition, despite the controversy concerning the usefulness of phallometric testing this tool was able to discriminate between the offending groups in the present study. The homicidal sex offenders demonstrated significantly deviant sexual arousal to pedophilic and assaultive pedophilic stimuli. In most clinics, deviant arousal indexes in the range of .80 are considered cause for concern. The HSO arousal indices in the range of 1.19 and 1.49 in the present study, diagnostic of pedophilic patterns of arousal, should be seen as particularly worrisome. The psychological profiles generated by the self report psychological inventories suggest such information must be interpreted with a great deal of caution, especially since it was clear clinicians saw considerable psychopathology in the HSO, as evidenced by DSM diagnoses, and the PCL-R clearly rated the homicidal group as evidencing more psychopathy. Although, these assessment tools are never used to establish guilt or innocence, they are sometimes used to guide programming for, or release from, treatment. In this regard with violent sex offenders one should be prudent. The message for sex offender programs is that, until more objective measures are developed, staff or therapist ratings should be considered most carefully. In addition, if self report measures are unreliable as a baseline measure , their usefulness as a monitoring device is dubious. The PCL-R was reliable in its ability to discriminate between the sex offender groups. Of particular interest was the usefulness of Factor 1, which is not based on antisocial acts, but on affective/interpersonal traits. In future, research providing subscale scores of the PCL-R would be helpful in developing profiles for

various offending groups.

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Table 1. Self Reported Characteristics of Homicidal Sex Offenders and Incest Offenders

	Homicidal (n)	Incest (n)	t or _²	df	p<
Age	33.5 ± 9.48 (48)	35.5 ± 7.73 (50)	-1.18	96	NS
IQ	96.3 ± 12.69 (37)	93.8 ± 8.51 (50)	1.04	59.1	NS
Admitted to Their Offense*	73.3 (33)	80.0 (40)	0.59	1	NS
Education	9.9 ± 2.47 (46)	9.9 ± 2.33 (46)	0.43	90	NS
Ever Married	30.2 (13)	84.0 (42)	27.66	1	.001
History of Alcohol Dependency	50.0 (22)	46.9 (23)	0.09	1	NS
History of Drug Abuse	43.2 (19)	37.5 (18)	0.31	1	NS
History of Suicidal Behavior	31.0 (13)	16.7 (8)	2.56	1	NS
Previous History of Violence	82.2 (37)	36.6 (15)	18.69	1	.001
Previous Forensic Contact (Psychiatry)	77.3 (34)	12.2 (6)	39.99	1	.001
Family History of Alcoholism	33.3 (15)	41.7 (20)	0.69	1	NS
Family History of Drug Abuse	9.1 (4)	12.5 (6)	0.28	1	NS
Family History of Mental Illness	25.6 (11)	20.8 (10)	0.29	1	NS
Family History of Violence	66.7 (10)	70.7 (29)	0.09	1	NS
Family History of Criminality	25.0 (11)	19.6 (9)	0.38	1	NS
Intact Family	57.9 (11)	76.1 (35)	2.15	1	NS
Physical Abuse <16	40.0 (6)	64.1 (25)	2.57	1	NS
Placed Outside of the Home <16	61.1 (11)	28.3 (13)	5.96	1	.015

* In all tables, for categorical data the percentage of subjects is presented first followed by the number of subjects in brackets.

Table 2. Psychological Test Scores for Homicidal Sex Offenders and Incest Offenders.

	Homicidal (n)	Incest (n)	t	df	p<
Derogatis Sexual Functioning Inventory					
Information	42.30 ± 11.15 (46)	37.27 ± 8.61 (49)	2.47	93	.015
Experience	42.06 ± 11.18 (47)	44.29 ± 10.62 (49)	-1.00	94	NS
Sexual Drive	49.53 ± 11.55 (45)	48.31 ± 8.71 (49)	0.58	81.6	NS
Sexual Attitude	41.13 ± 7.37 (47)	37.14 ± 5.87 (49)	2.94	94	.004
Psychological Symptoms	46.63 ± 12.56 (47)	40.55 ± 13.84 (49)	2.25	94	.027
Affects	43.76 ± 12.97 (47)	38.11 ± 13.14 (49)	2.12	94	.037
Gender Role Definition	44.43 ± 8.97 (47)	41.35 ± 8.62 (49)	1.72	94	NS
Sexual Fantasy	45.72 ± 10.71 (47)	43.90 ± 11.17 (49)	0.82	94	NS
Body Image	40.92 ± 9.78 (47)	37.18 ± 8.95 (49)	1.95	94	NS
Satisfaction	49.28 ± 9.30 (46)	47.88 ± 8.86 (49)	0.75	93	NS
Sexual Functioning Index	36.58 ± 11.67 (44)	30.00 ± 10.33 (49)	2.88	91	.005
Buss-Durkee Hostility Inventory					
Assault	3.04 ± 2.51 (47)	4.29 ± 2.67 (49)	-2.35	94	.021
Indirect Aggression	4.64 ± 2.16 (47)	5.00 ± 2.32 (49)	-0.79	94	NS
Irritability	3.79 ± 2.69 (47)	5.02 ± 3.13 (49)	-2.06	94	.042
Negativism	1.81 ± 1.41 (47)	2.31 ± 1.29 (49)	-1.80	94	NS
Verbal Aggression	6.96 ± 2.13 (47)	6.57 ± 2.36 (49)	0.84	94	NS
Resentment	2.77 ± 2.19 (47)	3.22 ± 2.26 (49)	-1.01	94	NS
Suspicion	3.23 ± 2.77 (47)	4.71 ± 2.90 (49)	-2.56	94	.012
Guilt	4.67 ± 2.07 (46)	5.90 ± 2.45 (48)	-2.61	92	.011
Total Score	26.23 ± 11.77 (47)	31.12 ± 12.38 (49)	-1.98	94	.050
Michigan Alcohol Screening Test	8.57 ± 10.56 (7)	6.75 ± 9.96 (13)	0.38	17	NS
Hare's Psychopathy Checklist-Revised					
Factor 1: Psychopathic Personality	12.57 ± 3.22 (40)	9.02 ± 2.99 (50)	5.41	88	.001
Factor 2: Antisocial Behavior	13.57 ± 3.85 (38)	7.34 ± 4.60 (29)	6.03	65	.001

Total Score	26.58 ± 7.55 (43)	18.71 ± 6.97 (50)	5.23	91	.001

Table 3. Degree of Sexual Violence Used in the Index Offense and Criminal History of Homicidal Sex Offenders and Incest Offenders

Sexually Aggressive Scale	Homicidal (n)	Incest (n)	_²	df	p<
Attempt or Touching: Fondling, masturbation, and/or kissing	12.2 (5)	26.5 (13)	2.87	1	NS
Serious Assault: Genital and/or anal penetration	17.1 (7)	65.3 (32)	21.15	1	.001
Assault with Excessive Violence: Use of violence, weapons, and/or mutilation of body	70.7 (29)	8.2 (4)	37.63	1	.001
Number of Previous Offenses (CPIC)					
Non-Violent Non-Sexual (3 or more)	47.5 (19)	24.0 (12)	5.44	1	.020
Non-Violent Non-Sexual	4.8 ± 6.11 (40)	2.3 ± 4.51 (50)	2.18	69.9	.033
Violent (Present vs Not Present)	45.0 (18)	14.0 (7)	10.65	1	.001
Violent	1.0 ± 1.35 (40)	.3 ± .78 (50)	2.98	59.2	.004
Sexual (Present vs Not Present)	25.0 (10)	20.0 (10)	0.32	1	NS
Sexual	.6 ± 1.11 (40)	.3 ± .67 (50)	1.48	61.1	NS
Overall (3 or more)	55.0 (22)	30.0 (15)	5.74	1	.017
Overall	6.4 ± 6.83 (40)	2.8 ± 4.89 (50)	2.79	68.4	.007

Table 4. Phallometric Responses for Homicidal Sex Offenders and Incest Offenders.

	Homicidal (n)	Incest (n)	t	df	p<
Pedophile Index	1.13 ± .67 (21)	.94 ± .47 (36)	1.34	55	NS
Pedophile Assault Index	1.19 ± .49 (21)	.93 ± .43 (35)	2.05	54	.046
Highest Pedophile Index	1.49 ± .51 (23)	1.11 ± .44 (41)	3.14	62	.003
Rape Index	.68 ± .43 (22)	.98 ± .63 (23)	-1.85	43	NS
Assault Index	.49 ± .35 (23)	.67 ± .42 (10)	-1.25	31	NS
Highest Rape or Assault Index	.75 ± .41 (29)	.98 ± .62 (24)	-1.67	51	NS

Table 5. DSM Diagnoses for Homicidal Sex Offenders and Incest Offenders.

	Homicidal (n)	Incest (n)	χ^2	df	p<
DSM Diagnoses					
Schizophrenic and/or Psychosis	14.6 (7)	0 (0)	7.85	1	.005
Affective Disorders	2.1 (1)	2.0 (1)	.00	1	NS
Anxiety Disorders	2.1 (1)	0 (0)	1.05	1	NS
Personality Disorders	52.1 (25)	4.0 (2)	28.37	1	.001
Antisocial Personality Disorder	35.4 (17)	0 (0)	21.43	1	.001
Psychosexual Disorders	4.2 (2)	2.0 (1)	0.39	1	NS
Paraphilias	79.2 (38)	24.0 (12)	29.83	1	.001
Atypical: Fetishism, voyeurism, exhibitionism, frotteurism, transvestic fetishism	22.9 (11)	0 (0)	12.91	1	.001
Pedophilia	39.6 (19)	24.0 (12)	2.75	1	NS
Sexual Sadism	75.0 (36)	2.0 (1)	55.53	1	.001
Pedophilia & Sexual Sadism	39.6 (19)	2.0 (1)	21.30	1	.001
Substance Abuse	39.6 (19)	6.0 (3)	15.87	1	.001
Alcohol Abuse	27.1 (13)	6.0 (3)	7.97	1	.005
Drug Abuse	22.9 (11)	4.0 (2)	7.62	1	.006
Adjustment Disorders	10.4 (5)	4.0 (2)	1.52	1	NS
Number of DSM Diagnoses					
0	2.1 (1)	74.0 (37)	53.35	1	.001
1	8.3 (4)	10.0 (5)	0.08	1	NS
2	14.6 (7)	10.0 (5)	0.48	1	NS
3 or more	75.0 (36)	6.0 (3)	48.67	1	.001