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Psychometric Correlates of Hostility in Sexual Offenders

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Abstract

In the present study, we examined the association of hostility, as measured by the Buss-Durkee Hostility Inventory (BDHI), with offence characteristics and recidivism in 656 adult male sexual offenders. Principle components analysis indicated the BDHI contained only one component with the present sample. Hostility was significantly associated with having prior violent charges, the use of violence in the index sexual offence, sexual recidivism, and violent recidivism. After controlling for risk level, as measured by the Rapid Risk Assessment for Sexual Offence Recidivism (RRASOR), the significant association between hostility and sexual and violent recidivism remained. When examined by type of offender, hostility was significantly associated with recidivism in intrafamilial and extrafamilial child molesters, but not in rapists or mixed offenders. Given the predictive value of hostility beyond the RRASOR, and its dynamic nature, the present findings confirm and encourage treatment efforts directed toward the management of hostility and anger in sexual offenders.

Hostility in Sexual Offenders

Hostility is described as involving angry feelings and connoting “a complex set of attitudes that motivate aggressive behaviours directed toward destroying objects or injuring other people” (Spielberger, Jacobs, Russell, & Crane, 1983, p. 162). Etiological theories of sexual offending consistently refer to the role of hostility in sexual aggression. Marshall and Barbaree (1990) attribute feelings of hostility observed in sexual offenders to poor socialization, which prevents these individuals from acquiring appropriate inhibitory controls over sex and aggression. In their theory of sexual offending Hall and Hirschman (1991) postulate that negative affective states, such as hostility, precede and facilitate sexual aggression, whereas other factors, such as guilt and empathy, fail to inhibit feelings of hostility. In examining the offence process in child molesters, hostile feelings toward women and society have been cited as affective pre-offence states (Proulx, Perrault, & Ouimet, 1999), and anger and hostility is associated with some sexual offender typologies (Prentky & Knight, 1991).

Empirical work has supported these theories of hostility in sexual offenders. Higher levels of both general and victim specific hostility have been documented in the sexual offender literature. Child molesters have reported greater levels of trait anger and hostility compared to nonsex offender comparison groups (Kalichman, 1991) and hostility levels in rapists have also been reported to be higher than in comparison groups (Hudson & Ward, 1997; Marshall & Moulden, 2001; Rada, Laws, Kellner, Stivastava, & Peake, 1983). Hostility also successfully differentiates between groups of sexual offenders based on the level of violence involved in their offence. In one study, researchers found significantly higher hostility for sexual offenders who used excessive physical force in their past offences compared to sexual offenders who did not use excessive physical force (Rada et al., 1983).

Although theoretical and empirical support exists, research on the relationship of hostility to sexual offending has not been conclusive. Some researchers have not found a significant association between hostility and the level of violence used in offenders' last offence or the number of prior violent and nonviolent convictions (Holland, Levi, & Beckett, 1983) or ratings of aggressiveness in psychiatric patients (Edmunds, 1976). In other studies, no differences have been found between child molesters or rapists on measures of hostility when compared to nonsex offender comparison groups (Overholser & Beck, 1986; Seidman, Marshall, Hudson, & Robertson, 1994).

These lack of significant differences obtained by some researchers may simply reflect type-II errors. Alternately, a theoretical explanation for non-significant differences is that sexual offenders may differ from comparison groups in terms of how they regulate or express their emotions rather than their experience of those emotions (Lee, Pattison, Jackson, & Ward, 2001). In an examination of dimensions of deficits in sexual offenders Lee et al. (2001) found a relationship between anger/hostility expression and the type of paraphilia, such that pedophiles and exhibitionists suppress or turn anger inward, rapists turn anger outward, and multiple paraphiliacs both suppress and act out anger. However, although differences in expression were detected, anger/hostility remained one of only two common features of psychopathology for each of the four targeted paraphilias (rapists, pedophiles, exhibitionists, and multiple paraphiliacs). Based on some evidence that hostility is higher in sexual offenders, and associated with various types of sexual offending, one would expect hostility to be related to future sexual offending and would be relevant for the prediction of recidivism across offender types.

Researchers have also examined the degree to which hostility is predictive of recidivism in sexual offenders. In a recent meta-analysis, Hanson and Morton (2003) reported a small but

meaningful association between hostility and recidivism in sexual offenders. Of the published studies included in that meta-analysis a significant proportion found that hostility in sexual offenders predicted sexual and/or violent recidivism. Quinsey, Khanna, and Malcolm (1998) reported that hostility was significantly higher in sexual and violent recidivists compared to non-recidivists. In fact, hostility was the best predictor of recidivism compared to the other self-report psychometric measures examined ($r = .18$ for sexual recidivism; $r = .22$ for violent [including sexual] recidivism). Other researchers found that rumination of anger is related to sexual recidivism in groups of mixed child molesters (Hudson, Wales, Bakker, & Ward, 2002; Thornton, 2002).

There is also some evidence that suggests hostility may be an important dynamic predictor of recidivism and it may complement static risk factors in the assessment of recidivism risk. Recent research on dynamic risk predictors found that anger observed by supervisors one month prior to a sexual reoffence was one of the best acute risk predictors of sexual recidivism ($r = .19$, $p < .01$; Hanson & Harris, 2000). Anger was predictive of recidivism even after static risk factors were taken into account (Hanson & Harris, 2000).

The purpose of the present study was to examine the association of hostility with offence characteristics and recidivism in a sample of sexual offenders. The degree to which hostility is related to prior sexual and violent offences, the use of violence in sexual offences, and sexual and violent recidivism was assessed. In addition, we examined whether or not hostility would add to prediction of recidivism beyond that of a well validated risk assessment instrument (Doren, 2002; Hanson & Morton, 2003), the Rapid Risk Assessment for Sexual Offence Recidivism (RRASOR; Hanson, 1997).

Method

Participants

All participants were assessed at the Royal Ottawa Hospital, Sexual Behaviours Clinic, between 1982 and 1995. The 656 participants were males, 18 years of age or older at the time of their index offences, and had all been convicted of a hands-on sexual offence against an adult or a child (i.e., under the age of 16 at the time of the offence). The total sample of 656 sexual offenders consisted of 298 incest offenders, 205 extrafamilial child molesters, 89 rapists, and 64 mixed offenders (i.e., falling into two or more of the above offender categories). The majority of the participants were assessed just prior to or just after their court appearance or sentencing.

Measures

Buss-Durkee Hostility Inventory (BDHI)

The Buss-Durkee Hostility Inventory (BDHI; Buss & Durkee, 1957) is a 66-item true-false self-report questionnaire that was developed with a non-forensic sample and designed to measure seven subtypes of hostility (Assault, Indirect Hostility, Irritability, Negativism, Resentment, Suspicion, and Verbal Hostility). Summing the Hostility scale scores provides a Total Hostility score that can range from zero to 66, with higher scores reflecting greater hostility. Adequate test-retest reliability has been reported for the BDHI (Biaggio, Supple, & Curtis, 1981; Buss, 1961). Factor analyses of the BDHI have typically yielded two factors: an attitudinal or hostility component and a behavioural or aggressiveness component (Bendig, 1962; Bushman, Cooper, & Lemke, 1991; Buss & Durkee, 1957; Edmunds & Kendrick, 1980; Holland, Levi, & Beckett, 1983). Generally, the attitudinal component consists primarily of the Resentment and Suspicion subscales, and the behavioural component consists primarily of the Assault and Verbal Hostility subscales. Biaggio (1980) found BDHI scores were significantly

correlated with anger questionnaires including the Anger Self-Report (Zelin, Alder, & Myerson, 1972), Reaction Inventory (Evans & Stangeland, 1971), and the Novaco Anger Inventory (Novaco, 1975).

The Rapid Risk Assessment for Sexual Offence Recidivism (RRASOR)

The RRASOR (Hanson, 1997) consists of four items: (1) prior sexual offences, (2) age at release, (3) victim gender, and (4) relationship to victim. RRASOR scores can range from 0 to 6, with higher scores reflecting higher risk. These four items were selected from a larger pool of variables through multivariate statistical procedures. Adequate predictive validity has been demonstrated with the RRASOR for sexual recidivism ($r = .27$ to $.28$) and violent (including sexual) recidivism ($r = .22$) (Hanson, 1997; Hanson & Thornton, 2000). In their meta-analysis, Hanson and Morton (2003) found average d s of $.59$ and $.34$ for sexual and violent recidivism, respectively.

Procedure

Offenders were assessed at a forensic psychiatric unit regarding their index sexual offences. This sample has been examined in previous research (e.g., Firestone, Bradford, McCoy, Greenberg, Curry, & Larose, 2000; Firestone, Bradford, McCoy, Greenberg, Larose, & Curry, 1999; Nunes, Firestone, Bradford, Greenberg, & Broom, 2002). Data were gathered at the time of assessment through file reviews, interviews, and testing. Only a portion of the data collected in these assessments is examined here. Violence in the index offence was coded as present if there had been threat of assault with a weapon, minor injury with or without a weapon, severe beating with or without a weapon, potential homicide, homicide, or homicide with post death mutilation.

Scoring of the RRASOR generally followed the coding guidelines outlined in Hanson (1997). There were, however, some deviations from the guidelines. We did not make a distinction between formal charges that did and did not result in conviction. The sum of these charges was used in scoring the prior sex offences item. Age at the time of assessment for the index offence was used to score the “age” item. Victim gender and relationship to victim were coded from information pertaining only to the index offence. Due to some deviations from the coding guidelines in the present study, the instrument would be most accurately described as a *modified* RRASOR. Although the adjective *modified* may not always be used (to avoid awkwardness), any reference to the utilization of the RRASOR with the present sample involves the modified version.

Offence information (i.e., prior and index offences) was gathered from the Canadian Police Information Center (CPIC) at the Ottawa Police Station, a national database of criminal arrests and convictions including INTERPOL reports from the Royal Canadian Mounted Police. For an offender to be considered eligible to reoffend, he must have been free to commit a crime; that is, he could not have been incarcerated or in secure custody for reasons of mental illness. Recidivism information was gathered from the CPIC records. Recidivism was coded as the first offense committed when eligible. Sexual recidivism was defined as a charge or conviction for a sexual offence after the index offence. Violent recidivism included a charge or conviction for a violent or sexual offence after the index offence.

Results

To assess the dimensionality of the BDHI, principal components extraction with varimax rotation was performed on the seven subscales; this procedure has been utilized by other researchers to extract components from the BDHI subscales (e.g., Holland et al., 1983). The

results indicated that the BDHI contained only one component (eigenvalue = 4.12), accounting for 58.9% of the variance. Given the unidimensionality of the BDHI with the present sample of sexual offenders, subsequent analyses examined only the BDHI total scores.

Descriptive statistics are presented in Table 1, as are correlations of variables of interest with the BDHI. BDHI scores were not significantly correlated with RRASOR scores. Although BDHI scores were not significantly associated with any prior sexual charges, they were significantly correlated with any prior violent charges and the use of violence in the index offence. BDHI total scores were significantly correlated with both sexual and violent recidivism. Average follow-up time was 12.18 years ($SD = 3.33$). The RRASOR was significantly correlated with sexual recidivism, $r(635) = .23, p < .001$, and with violent recidivism, $r(635) = .21, p < .001$.

Mean BDHI and RRASOR scores are reported below as a function of sexual and violent recidivism. With regards to sexual recidivism, mean BDHI scores were 30.55 ($SD = 13.12$) among recidivists and 26.03 ($SD = 12.50$) among nonrecidivists; mean RRASOR scores were 1.85 ($SD = 1.35$) among recidivists and 1.14 ($SD = 1.17$) among nonrecidivists. Both the BDHI and RRASOR means were significantly higher among sexual recidivists, respectively, $t(654) = -3.64, p < .001, t(633) = -5.81, p < .001$. In terms of violent recidivism, mean BDHI scores were 30.99 ($SD = 12.61$) among recidivists and 25.19 ($SD = 12.41$) among nonrecidivists; mean RRASOR scores were 1.67 ($SD = 1.34$) among recidivists and 1.11 ($SD = 1.16$) among nonrecidivists. Both the BDHI and RRASOR means were significantly higher among violent recidivists, respectively, $t(654) = -5.46, p < .001, t(633) = -5.34, p < .001$.

We were interested in whether hostility would contribute independently to the prediction of sexual and violent recidivism even after RRASOR scores were taken into account. A

sequential logistic regression was performed to determine whether the BDHI and RRASOR contributed uniquely to the prediction of sexual recidivism. RRASOR scores were entered first followed by BDHI scores. As can be seen in Table 2, the BDHI contributed uniquely to the prediction of sexual recidivism. A parallel sequential logistic regression for violent recidivism was performed; the results are presented in Table 3. As with sexual recidivism, the BDHI contributed uniquely to the prediction of nonsexual violent recidivism.

Also of interest was the relationship between hostility and recidivism in different types of sexual offenders. Correlations between the BDHI and sexual recidivism and violent recidivism are reported, respectively, in Tables 4 and 5 for intrafamilial child molesters, extrafamilial child molesters, rapists, and mixed offenders. For both sexual and violent recidivism, small significant correlations were found with hostility in the intrafamilial and extrafamilial child molesters, but not in the rapists or mixed offenders. Logistic regressions controlling for RRASOR scores were not performed on the separate offender groups because sample sizes were insufficient.

Discussion

We found that hostility, as measured by the BDHI, was associated with a higher likelihood of sexual and violent recidivism. This result is generally consistent with the findings of other researchers (Hanson & Morton, 2003). More importantly, we found that hostility added to the prediction of sexual and violent recidivism beyond the RRASOR. This suggests that hostility may be an important construct to assess in addition to the predictors addressed by the RRASOR (i.e., prior sex offences, age, victim gender, and relationship to victim). This finding is consistent with results demonstrating the unique contribution of anger as an acute dynamic risk factor in its ability to predict sexual recidivism (Hanson & Harris, 2000), and lends some support

to efforts directed toward identifying dynamic (stable and acute) risk factors and incorporating them into standard sexual offender risk assessments.

Among rapists and mixed offenders, however, hostility was not an important predictor of sexual or violent recidivism. The failure of hostility to predict recidivism for rapists and mixed offenders was somewhat surprising given that sexual offenders may express hostility differently, but still all seem to experience it (Lees, et al., 2001).

Contrary to past research with both non-forensic and forensic samples, principle components analysis indicated the BDHI contained only one component with the present sample. This finding may be due to differences between the present sample and the samples in past research. Although some of the past research examining the factor structure of the BDHI used forensic samples, none have used sex offender samples. Given that sexual offenders appear to be a distinct group in many ways compared to other types of offenders (e.g., Hanson, Scott, & Steffy, 1995), it is possible that the BDHI is unidimensional with this population, but multidimensional with nonsex offenders.

In the present study we have attempted to contribute to, and clarify some discrepancies, in the hostility literature with respect to sexual offenders. Although not related to previous sexual offences, hostility was related to previous violent offences. Given the BDHI is a measure of general hostility it may more accurately capture general violent tendencies versus those sexual in nature. However, consistent with previous literature, hostility was predictive of recidivism in this sample (Firestone et al., 1999; Firestone et al., 2000; Thornton, 2002; Ward et al., 2002) and complemented the RRASOR in the prediction of recidivism. Given the predictive value of hostility beyond the RRASOR, and its dynamic nature, the present findings confirm and

encourage treatment efforts directed toward the management of hostility and anger in sexual offenders.

The present study had some limitations such as reliance on police reported sexual and violent offences, which obviously fails to capture the behavioural and risk dynamics of those sexual offenders who are not caught. An additional limitation was insufficient sample sizes for separate regression analyses. There is evidence that different types of sexual offenders are characterized by different risk factors and recidivism rates (Firestone et al., 1999), thus future research on the relationship of hostility and recidivism, particularly in rapists, would be valuable.

A strength of the study is the population from which the sample is drawn. This population is unique in that it is comprised men who have been convicted of a sexual offence and have been assessed in a sexual behaviours clinic located in the forensic unit of a large psychiatric hospital. Many of these offenders were not sentenced to time in prison for their offences (Nunes, Firestone, Jensen, Wexler, & Bradford, 2003). Therefore, this group may be more representative of the wide array of men processed through the courts than those used in previous studies, often sampled from maximum security psychiatric facilities or prisons. The present results suggest that previous findings of a relationship between hostility and recidivism in sexual offenders hold true when tested on a lower risk population, and that hostility may be an important factor to consider in addition to constructs tapped by instruments such as the RRASOR.

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Table 1

Descriptive Statistics and Correlations with BDHI

Variable	<i>N</i>	<i>M</i> or %	<i>SD</i>	<i>R</i>
BDHI Total Score	656	26.92	12.74	--
RRASOR	635	1.28	1.24	.06
Age at assessment	654	38.54	12.02	-.24***
Education (years)	602	10.48	3.24	-.20***
Ever married	572	63.1%	--	-.06
Any prior sexual charges	656	24.5%	--	.05
Any prior violent charges	655	21.4%	--	.18***
Violence in index offence	612	19.1%	--	.20***
Sexual recidivism	656	19.7%	--	.14***
Violent recidivism	656	29.9%	--	.21***

*** $p < .001$.

Table 2

Sequential Logistic Regression Predicting Sexual Recidivism from RRASOR and BDHI

Scale	B	SE B	Wald	Odds ratio	95% CI
Block 1					
RRASOR	0.42	.08	29.55***	1.52	1.31-1.77
Block 2					
RRASOR	0.42	.08	28.29***	1.51	1.30-1.76
BDHI	0.03	.01	9.53**	1.03	1.01-1.04

Note. $\chi^2(1, N = 635) = 29.77$ for Block 1 ($p < .001$). $\chi^2(1, N = 635) = 9.60$ for Block 2 ($p < .01$). *SE* = Standard Error. *CI* = Confidence Interval.

** $p < .01$. *** $p < .001$.

Table 3

Sequential Logistic Regression Predicting Nonsexual Violent (Including Sexual) Recidivism from RRASOR and BDHI

Scale	B	SE B	Wald	Odds ratio	95% CI
Block 1					
RRASOR	0.36	.07	25.71***	1.43	1.24-1.64
Block 2					
RRASOR	0.35	.07	23.84***	1.42	1.23-1.63
BDHI	0.04	.01	23.80***	1.04	1.02-1.05

Note. $\chi^2(1, N = 635) = 26.48$ for Block 1 ($p < .001$). $\chi^2(1, N = 635) = 24.69$ for Block 2 ($p <$

$.001$). *SE* = Standard Error. *CI* = Confidence Interval.

*** $p < .001$.

Table 4

BDHI Correlations with Sexual Recidivism by Type of Offender

Type of Offender	Sexual Recidivism				<i>r</i>
	No		Yes		
	n	<i>M (SD)</i>	n	<i>M (SD)</i>	
Intrafamilial child molesters	267	25.46 (11.72)	31	32.55 (13.51)	.18**
Extrafamilial child molesters	156	25.62 (12.80)	49	30.63 (14.10)	.16*
Rapists	66	29.09 (13.56)	23	30.87 (10.77)	.06
Mixed	38	26.47 (14.26)	26	27.73 (12.86)	.05

* $p < .05$. ** $p < .01$.

Table 5

BDHI Correlations with Violent Recidivism by Type of Offender

Type of Offender	Violent Recidivism				<i>r</i>
	No		Yes		
	n	<i>M (SD)</i>	n	<i>M (SD)</i>	
Intrafamilial child molesters	238	24.66 (11.48)	60	32.32 (12.59)	.26***
Extrafamilial child molesters	131	24.34 (12.62)	74	31.19 (13.33)	.25***
Rapists	53	28.74 (14.08)	36	30.75 (10.91)	.08
Mixed	38	26.47 (14.26)	26	27.73 (12.86)	.05

*** $p < .001$.