Review Article

Social Competence in Men Who Sexually Offend Against Children: Testing an Integrated Model

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Abstract

Social functioning deficits have long been implicated in explanations for sexual abuse. The goal of the current study was to examine how various indicators of social functioning are combined to explain sexual aggression in those who abuse children. Participants included men convicted of a sexual offence against a child (N = 122) and non-sexual offenders (N = 61). As hypothesized, child molesters reported poorer social intelligence, victim specific and general empathy deficits, and greater cognitive distortions about sexual contact with children. Deficits in social competence were related to sexual offending, and differentiated between groups. Furthermore, cognitive distortions and victim empathy made a unique contribution in categorizing child molesters. These results were found after controlling for demographic and criminal history factors. This study demonstrates the importance of integrating independent factors into a testable model, has implications for etiological theories, and contributes to understanding the complex role of social functioning factors in aggression.

SOCIAL COMPETENCE IN MEN WHO SEXUALLY OFFEND AGAINST CHILDREN

The Evaluation of an Integrated Model Well established theoretical explanations of sexually aggressive behaviour are multifactorial, and consider clusters of problems associated with the commission of child sexual abuse, such as intimacy deficits, social skills problems, deviant sexual arousal, and cognitive distortions [1,2]. Deficits in interpersonal competence represent an example of theoretical convergence in the analysis of sexual aggression, and child sexual abuse specifically [3]. Although variously defined, social competency factors are consistently included in descriptions of individuals who sexually abuse children, and are believed to play a central role in the etiology and maintenance of sexually aggressive behavior [4]. It is believed that as a result of such deficits and resultant interpersonal difficulties, potential offenders attempt to meet needs for intimacy and connectedness in deviant ways. The present study proposes and tests a theory of the mechanisms of social functioning believed to be implicated in child sexual abuse by integrating aspects of social competence, including social intelligence, empathy, and cognitive distortions.

Social competence deficits have consistently been implicated as mediating the relationship between biological and early environmental vulnerability factors, and sexual aggression.

Although the findings have been inconsistent, there is enough empirical evidence to suggest that sexual offenders, and child molesters in particular, have some manner of social functioning deficits manifested as problems with cognitive processes, social perceptions, and empathy [3,5-7]. As Hudson and Ward argue in their review of social competency in sexual offending, many of the social deficit characteristics of sexual offenders are generally accepted in the literature. They are typically seen as socially inept and isolated, as having limited interpersonal skills, being sexually preoccupied, and hostile in interactions [8,9]. However, what are less clear are the mechanisms by which these deficiencies operate to facilitate or cause sexual aggression.

Like social intelligence, empathy has been clearly implicated in the mediation of behaviour, both antisocial and prosocial [10,11]. Barnett and Mann [12], propose a multi-factor model of empathy that shares similar affective and cognitive processes. Although intuitively appealing as an explanation for sexual aggression, there is little evidence that sexual offenders experience generalized empathy deficits. In fact they appear to have the capacity to experience empathy at levels comparable to nonsex offenders [13,14], even when considering victims of sexual abuse [15,16].

Based on various models of aggression [17], as well as research on sexual aggression, it appears that when conceptualizing the

role of social functioning in aggressive behaviour, aggression can be understood as the product of social intelligence in the absence of empathy. However, such a model of general aggression does not explain the decision to use sex as the vehicle for violence. Therefore, how do we understand *sexual* aggression from a social functioning framework?

The role of cognitive processes in sexually aggressive behaviour has been the subject of debate [18]. Some argue that such distortions are related to conscious post-offence processes employed to excuse or justify behaviour, thereby allowing the offender to continue to be abusive [19,20]. Others suggest that cognitive distortions arise prior to offending, as a way of overcoming internal inhibitions by inhibiting empathy [21-26]. In keeping with Finkelhor's [24], explanation of cognitive distortions, some researchers have suggested that cognitive distortions are the product of underlying schemas, which actively modify incoming information so that it is consistent with their beliefs about themselves, others, and the world [26]. In reality, each perspective on the cognitive processes surrounding sexually abusive behaviour may be true, and reflect the many ways in which offenders think about their sexual behaviour and victims. In their meta-analysis of sex offending attitudes and recidivism, Helmus, Hanson, Babchishin, and Mann [27], concluded that cognitive distortions, or attitudes supportive of sexual offending were related to sexual recidivism, and that this relationship was stronger for offenders against children.

Consistently, these three concepts (i.e. social intelligence, victim empathy, and cognitive distortions) appear in the sexual offender literature [12,4,28,29], however almost always independently. It is proposed that in addition to biological/ distal factors, sexual aggression is in part a function of deficits or problems with social functioning. Such deficiencies in social competence are not believed to be the sole cause of sexual assaults, however they are clearly part of multidimensional theories of child sexual abuse [3,4,24,30,31]. Cognitive distortions or offence supportive beliefs are proposed as making an additional contribution, given their suspected role in empathy inhibition, and the influence that social experiences have on the formation and strengthening of cognitive schema and information processing.

Present Study

The purpose of the present study was to examine a possible explanatory pathway through which social competency factors individually and collectively contribute to the explanation of sexual aggression. To this end the study examined the nature of relationships between social intelligence, general/victim empathy, and cognitive distortions in predicting sexual aggression in child molesters. Furthermore, a theoretically derived sequence between variables was proposed and tested.

Based on previous literature, the first hypothesis predicted that child molesters would be less socially intelligent than non child molesters, report deficits in victim empathy compared to non child molesters, and endorse more cognitive distortions about children and sexual behaviour than non child molesters.

The second hypotheses proposed that social intelligence, victim empathy, and cognitive distortions would predict sexual

aggression in child molesters, and cognitive distortions would significantly account for variance over and above that of social intelligence and victim empathy in its association with sexual aggression in child molesters.

The etiological theories reviewed above suggest that there is a developmental sequence to the manifestation of disturbances in social functioning. Based on these propositions, a specific sequence or order was hypothesized and tested. Specifically, individuals low in social intelligence will be more likely to endorse more cognitive distortions, individuals reporting more cognitive distortions would also be less empathic towards their victim, and individuals reporting poor victim empathy will be more likely to be sexually aggressive.

METHOD

Participants

Participants included 52 intrafamilial child molesters (ICM), 70 extra familial child molesters (ECM), 31 nonsexual offenders (NSO), and 30 community nonoffenders (CNO). All offender participants were inmates in federal penitentiaries in Canada. Intrafamilial child molesters consisted of men who committed a sexual offense against a biological or step-child exclusively. Extra familial child molesters included men who had been convicted of a sexual offence against an unrelated child, and included men who had offended against their own children in addition to extra familial victims. All offenders were classified as child molesters if they had a current conviction for a sexual offence against a child 16 years old or younger. Offenders were classified as nonsexual offenders if they had no current or prior convictions or charges for a sexual offence, b) denied ever committing an act of sexual aggression, and c) were currently convicted of a violent crime. A group of community nonoffenders were also included if they a) denied a history of sexual and/or violent convictions, and b) denied ever committing an act of sexual aggression. Ethics approval for the study was granted from the Social Sciences and Humanities Research Ethics Board of the University of Ottawa and permission from the Correctional Service of Canada.

A total of 234 adult males were recruited to participate in the present study. Two community participants withdrew from the study due to the sensitive nature of the questionnaire items. They were debriefed and paid for their time. Fifteen community participants and three nonsexual offenders were excluded based on endorsement of sexually aggressive behaviours/ fantasies. Thirty-one incarcerated participants refused to participate. This resulted in a sample of 183 participants.

Incarcerated participants were selected through treatment waiting lists and institutional population lists. Community nonoffenders were recruited through an advertisement placed in the local newspaper. Previous research has demonstrated that this procedure for recruitment produces a sample of males who closely resemble incarcerated men on a variety of demographic characteristics (e.g. education, income, age; [32].

Measures

Data were collected on demographic information including age, education, employment, and marital status based on file information and self-report. Additionally, community and

incarcerated nonsexual offenders completed a screening form querying self-reported criminal and sexually aggressive behaviour.

Response Style: In order to assess to what degree participants responded in a socially desirable manner, they completed the Paulhus Deception Scales (PDS; [33]). Internal consistency (Cronbach's alpha) of the IM, SDE, and PDS (total), are .71, .84, and .86, respectively, the PDS also has good convergent validity (r = .84; Paulhus).

Social Intelligence: The Social Intelligence Measure-Adult Version (SIM-AV) [32], is a measure designed to represent skills or tendencies believed to be characteristic of social intelligence [34]. In the present study, Björkqvist et. al.'s model of aggression redesigned as a self-report questionnaire. The adapted measure consists of 10 items, which describe ways in which people interact with each other. A pilot study was undertaken in 2001 to evaluate the psychometric properties of the adapted versions. The SIM-AV demonstrated good internal consistency (alpha =. 79), and moderate test-retest reliability (r = .50) over a two-week period [32].

Cognitive Distortions: Participants completed the MOLEST scale (MS) [35], which consists of 38 items designed to assess beliefs and attitudes in child molesters. In validation studies the measure has been found to have excellent internal consistency (alpha = .97) and test-retest reliability (r = .84) [35].

Empathy: The Child Molester Empathy Measure (CMEM) [15], has three scenarios that describe child victims. Internal consistency was reportedly high for all three scenarios (alphas = .82; .87; .88), and test-retest reliability over a two-week period revealed a satisfactory correlation (r = .83) [15]]. The Empathy Measure-Adult Version (EM-AV) [35], was adapted following the same procedure described above [36]. The EM-AV consists of 8 items, which describe ways people demonstrate empathy. Following the same procedures as for the SIM-AV, the psychometric properties of the EM-AV were evaluated and revealed good internal consistency, alpha = .84, and test-retest reliability, r = .82 [37]. The Empathy Skills Questionnaire (ESQ; Preston & Murphy, 1996) was designed as a structured interview in which respondents are asked about how they would respond to various types of situations. Previous research [38], has reported good internal consistency (alpha = .82, .88, and .82) for the three scales of the ESQ (perspective taking, affect, and coping with distress). In the present study, respondents were requested to read the items and document their responses themselves rather than provide replies to interview questions. Due to this procedural modification of the measure, it is more accurate to identify it as a self-report administration. Therefore, the ESQ is referred to as The Empathy Skills Questionnaire-Self-Report (ESQ-SR). The ESQ-SR's internal consistency was good in the present study (Chronbach's coefficient alphas = .83 -.94). Interrater reliability was calculated for the ESQ-SR by the first author and a graduate student in clinical psychology. The interrater reliability for the present study was r = .73.

Sexual aggression was defined based on criminal history records. A composite score of charges and convictions for sexual offences was calculated where charges were given half the weight

of convictions. Charges and convictions were then summed to produce a total score.

Procedures

Prison files, criminal records, and police reports were examined to classify the incarcerated sample into one of three groups (i.e. Intrafamilial child molesters, Extra familial child molesters, or Nonsexual offenders). If participants were interested in the study they were asked to sign the consent form and were then provided with questionnaire packages to complete, including the sexual behaviours screening form for incarcerated nonsexual offenders. Once completed, participants were debriefed about the study.

Community participants responded to a recruitment advertisement in local newspapers. The purpose of the study was described on the telephone, and if participants were interested, an appointment was scheduled. Participants completed the questionnaire package, including screening and demographic forms. Once participation was complete participants were debriefed, and paid for their time.

Data Screening and Preparation

All data analyses were performed with the Statistical Package for the Social Sciences (SPSS) for Windows. The significance for all a priori analyses was evaluated at $p < .05$. Planned comparisons were tested using Bonferroni t-tests to correct for family wise error.

The proportion and pattern of missing data were evaluated using SPSS MVA (Missing Value Analysis: SPSS Inc., 1997). There was no pattern to the data missing, MCAR = 88.81, p = .89. Normality was verified for each group. None of the variables were multicollinear, despite the selection of multiple measures for the same construct. In order to reduce the regression load, the most psychometrically sound measure was used to represent a given construct in regression analyses. Multivariate outliers were identified using Mahalanobis distance, and removed.

RESULTS

Participant Characteristics

Data were collected for four comparison groups, including ICM, ECM, NSO, and CNO. A series of ANOVAs and Chi square analyses were performed to evaluate group differences prior to collapsing across the groups so as to increase the group samples and thus power. A description of the two collapsed groups is summarized in Table 1. Significant differences between CM and NCM groups included age and education level, such that the NCM were younger and had achieved higher levels of education.

Hypothesis One: Group Comparisons

A series of between-subjects analysis of covariance (ANCOVA), were used to evaluate hypothesis one and are summarized in Table 2. Descriptive variables that differed between the comparison groups (i.e. CM and NCM) were entered as covariates in the analyses, along with PDS scores where appropriate. Levene's test for homogeneity of variance was calculated for each

Table 1: Group Differences for Demographic Information.

	CM (122)	NCM (61)				
	M(SD)/%	*M(SD)/%*	*df*	*F* or χ²	*p*	η²
Age	45.43 (12.20)	36.82 (10.73)	1, 181	21.94	**<.001**	0.12
Education	2.57 (0.77)	3.07 (1.03)	1, 181	13.56	**<.001**	0.07
Employment			4	5.89	0.208	0.03
Unemployed	14.8	21.3				
Student	0	1.6				
Unskilled	60.7	57.4				
Skilled	24.6	18				
Professional	0	1.6				
Martial Status						
Never	22.1	35.5	2	4.52	0.104	0.03
Single	18					
CL/Married	59.8	38.7				
Sep/Div	0	0				
Widowed	0	0				
Sentence (months)	74.11 (74.89)	83.52 (90.17)	1, 151	0.358	0.55	<.01
No. Prior Charges						
Sexual	1.01 (1.90)	0.00 (0.00)	1, 151	8.68	**0.004**	0.05
Violent	0.94 (1.74)	4.19 (3.52)	1, 151	53.64	**<.001**	0.05
General	4.84 (8.60)	17.06 (14.55)	1, 151	36.41	**<.001**	0.15
No. Prior Convictions						
Sexual	0.67 (1.36)	0.00 (0.00)	1, 151	7.5	**0.007**	0.05
Violent	0.84 (1.71)	1.81 (2.10)	1, 151	7.24	**0.008**	0.26
General	1.39 (3.48)	6.06 (7.21)	1, 151	27	**<.001**	0.19

Note.   CM = Child Molesters, NCM = Non Child Molesters

Table 2: Group Differences between Child Molesters and Non Child Molesters on Social Functioning and Aggression.

	CM	NCM				
	M(SD)	*M(SD)*	*df*	*F*	*p*	η²
SIM-AV	30.03 (5.30)	33.18 (4.96)	3, 179	8.67	**0.004**	0.05
EM-AV	31.58 (5.45)	32.07 (4.71)	4, 178	1.11	0.293	<.01
ESQ-SR	17.40 (9.15)	18.73 (11.03)	4, 179	0.97	0.326	<.01
CMEM(1)	291.58 (62.40)	283.84 (62.91)	3, 179	0.72	0.398	<.01
CMEM(2)	358.24 (72.03)	359.05 (75.12)	3, 179	0	0.997	<.01
CMEM(3)	296.66 (92.16)	341.35 (86.55)	3, 149	**12.38**	0.002	**0.09**
MS	63.95 (18.08)	51.31 (15.91)	4, 178	20.84	**<.001**	0.11

Note: CM = Child Molesters, NCM = Non Child Molesters, SIM-AV= Social Intelligence Measure-Adult Version, EM-AV = Empathy Measure-Adult Version, ESQ-SR = Empathy Skills Questionnaire-Self-report; CMEM = Child Molester Empathy Measure, MS = Molest Scale, PDS = Paulhus Deception Scales
Covariates for EM-AV, ESQ-SR, MS: PDS, age, education
Covariates for CMEM (all scenarios), SIM-AV: age, education

analysis. The results were not significant. The ANCOVA evaluating social intelligence included age and education as covariates. Overall, the ANCOVA for the SIM-AV scores was significant. The inclusion of covariates failed to account for significant variance in the analysis. This finding suggested that NCM are more socially intelligent than CM.

General and victim specific empathy were evaluated based on the ESQ-SR, EM-AV, and CMEM. The ANCOVA for the ESQ-SR included age, education, and PDS scores as covariates. The PDS significantly covaried with ESQ-SR scores, $F (1, 178) = 6.38$, $p = .012$. No significant group difference was found on the ESQ-SR after accounting for the effect of the PDS scores. The ANCOVA

for the EM-AV also included age, education, and PDS scores as covariates. EM-AV scores for CM and NCM were not significantly different. Although age did not covary with this measure of general empathy, PDS scores and education were both significant, F (1, 178) = 23.61, $p <. 001$, and F (1, 178) F = 4.94, p = .027, respectively. Therefore, again socially desirable responding, and in this case, higher education accounted for differences between CM and NCM on general empathy. The CMEM was used to evaluate both general and victim specific types of empathy. Each of the three scenarios for the CMEM was evaluated separately, and covariates included age and education. The ANCOVAs for CMEM Scenario 1 and Scenario 2 were not significant, suggesting that CM and NCM do not differ with respect to general empathy. However, a significant effect was observed for CMEM Scenario 3. NCM had higher Scenario 3 scores than CM, which suggests that child molesters endorsed less empathy for their own victim compared to NCM. An additional within subject ANOVA revealed that compared to their own responses on Scenarios 1 and 2, CM also reported significantly lower scores on Scenario 3, F (1, 121) = 287.64, $p < .001$. This finding indicates that CM exhibit victim specific empathy deficits, which are both significantly less than the empathy experienced by NCM, and also compared to their experience of empathy for nonvictims. None of the covariates accounted for significant variance in these analyses. The ANCOVA for the MS included age, education, and PDS scores as covariates. PDS scores accounted for significant variance in this analysis, F (1, 178) = 4.43, p = .037. However, even after accounting for the variance associated with response style, the results were still significant, such that CM had higher scores than the NCM group.

Hypothesis Two: Predicting Sexual Aggression in Child Molesters

A second purpose of the study was to examine the nature of the relationship between social intelligence, victim empathy, and cognitive distortions in predicting sexual aggression in child molesters. After removing the multivariate outliers this group consisted of 111 child molesters. To investigate the prediction of sexual aggression, sexual criminal history represented the criterion variable. A linear regression was performed using predictor variables, SIM-AV, ESQ-SR, EM-AV, CMEM-V, and MS. The results are summarized in Table 3. Three indicators of empathy were included. Both the ESQ-SR and the EM-AV represent measures of general empathy and were psychometrically sound. Although, neither tool differentiated between groups, they were included to explore what, if any, contribution either measure would make in the prediction of sexual aggression. All variables which represented potential confounds (i.e. PDS, marital status, victim age, the number of victims), were included in the regression analyses. After all variables were entered the overall R was significant, F (9, 101) = 1.91, p = .05. Covariates in block 1 were collectively not significant, R^2 = .03, F (4, 106) = 0.9, p =.49. The social competence predictor variables in block 2 significantly predicted sexual aggression, R^2 = .15, ΔF (5, 101) = 2.68, p = 0.03, and accounted for 15% of the variance.

A logistic regression was also performed to distinguish between child molesters and non sexual offenders. Covariates were entered into the first block and included age, marital status, education, and employment. These variables differentiated the

groups significantly, χ^2 (4) = 24.76, p <.001. The variables of interest (SIM-AV, EM-AV, ESQ-SR, CMEM-G, CMEM-V, and MS) were entered together into block 2, and this was also significant, χ^2 (6) = 43.81, p <.001. The overall variance accounted for in classifying the child abuser group based on social competence variables was large, with a Nagelkerke adjusted R^2 = .59, indicating that 59 percent of the variability in designation as a CM or NCM was predicted by the social competence variables. Prediction analyses indicated that 94 percent of CM and 61 percent of NCM were correctly classified, for an overall success rate of 87 percent. According to the Wald criterion, cognitive distortions and victim empathy predicted group classification. Table 4 summarizes the logistic regression.

The role of cognitive distortions in predicting sexual aggression

Hierarchical regressions were used to examine the unique contribution of cognitive distortions in the prediction of sexual aggression and classification of child molesters. In the first analysis, social intelligence (SIM-AV), and victim empathy (CMEM-V), were entered as predictors of sexual aggression. Cognitive distortions (MS) were entered last to examine what if any unique variance was left unaccounted for. Block 1 consisted of social intelligence (SIM-AV), general empathy (EM-AV), and victim empathy (CMEM-V), and as already demonstrated, predicted sexual aggression. Cognitive distortions were added in block 2, but did not account for additional variance.

To predict group membership in the next regression, the same three blocks were entered in the hierarchical logistic regression. The covariates age, marital status, education, and employment in block 1 were significant, χ^2 (4) = 24.76, p <.001, suggesting that together they account for significant variance in distinguishing between these two groups. In the second block, social intelligence (SIM-AV), and victim empathy (CMEM-V), also significantly predicted group classification, χ^2 (2) = 15.09, p <.001. The variance accounted for by social intelligence and empathy was fair, with a Nagelkerke adjusted R^2 = .38, indicating that 38 percent of the variability in designation as a child molester or a non sex offender was predicted by these variables. Cognitive distortions (MS), included in block 3, accounted for further variance in the prediction of group classification, χ^2 (1) = 28.33, p <.001. The variance accounted for by cognitive distortions increased significantly to 58 percent (Nagelkerke adjusted R^2 = .58). Classification analysis indicated that when MS was included, 94 percent of child molesters and 58 percent of non sexual offenders were correctly classified, for an overall classification rate of 87 percent. This is compared to the classification analysis after block two, including only social intelligence and victim empathy, which correctly classified 82 percent overall. The results of the regression are summarized in Table 5.

Hypothesis Three: The Route to Sexual Aggression in Child Molesters

Path analysis is a statistical procedure, which examines the associative strength between variables. These variables are theoretically ordered to describe an explanatory path and suggest a causal relationship. Of course, path analysis does not permit a true test of causality given the original design of this study.

Table 3: Linear Regression Predicting Sexual Aggression from Social Intelligence, Empathy, and Cognitive Distortions in Child Molesters.

	Predictor Variables	β	t	p	sr²
Block 1					
	PDS	-0.09	-1.05	0.3	-0.09
	Marital status	-0.4	-4.5	**<.01**	-0.39
	Victim age	0.15	1.68	0.1	0.15
	No. of victims	0.08	0.88	0.4	0.08
Block 2					
	SIM-AV	-0.03	-0.27	0.79	0.02
	ESQ-SR	-0.08	-0.85	0.4	-0.08
	EM-AV	-0.06	-0.56	0.58	-0.05
	CMEM-G	0.04	0.36	0.72	0.03
	CMEM-V	0.04	0.4	0.71	0.03
	MS	-0.06	-0.56	0.57	-0.05

Note. n = 111, Criterion variable: Criminal History Composite Score, Predictor variables: PDS=Paulhus Deception Scale, SIM-AV=Social Intelligence Measure-Adult Version, ESQ-SR = Empathy Skills Questionnaire-Self-Report, EM-AV=Empathy Measure – Adult Version, CMEM-G = Child Molester Empathy Measure-General Empathy, CMEM-V = Child Molester Empathy Measure-Victim Empathy, MS = Molest Scale.

Table 4: Logistic Regression Predicting Sexual Aggression from Social Intelligence, Empathy, and Cognitive Distortions in Child Molesters.

Predictor Variables	B	Wald	Odds Ratio	95% CI for OR	
				Upper	Lower
Block 1					
Age	-0.08	5.33	0.92	0.85	0.99
Education	0.08	0.04	1.08	0.49	2.38
Marital Status	0.72	0.13	0.92	0.59	1.44
Employment		1.28	0.49	0.14	1.69
Block 2					
SIM-AV	0.04	0.47	1.05	0.92	1.19
ESQ-SR	0.03	0.81	1.03	0.97	1.09
EM-AV	-0.02	0.07	0.98	0.86	1.12
CMEM-G	0	0.85	1	0.99	1
CMEM-V	-.01*	7.2	0.99	0.98	1
MS	.11*	15.14	0.9	0.85	0.95

Note. n = 111, Criterion variable: Child Molesters versus Non Sexual Offenders, Predictor variables: SIM-AV=Social Intelligence Measure-Adult Version, ESQ-SR = Empathy Skills, Questionnaire-Self-Report, EM-AV=Empathy Measure – Adult Version, CMEM-G = Child Molester Empathy Measure-General Empathy, CMEM-V = Child Molester Empathy Measure-Victim Empathy, MS = Molest Scale.

Table 5: Hierarchical Regression Testing Unique Contribution of Cognitive Distortions in Prediction of Sexual Aggression in Child Molesters.

Predictors	B	Wald	Odds Ratio	95% CI for OR	
				Upper	Lower
Block 1					
Age	0.08	5.75	0.92	0.86	0.99
Education	-0.18	0.25	1.2	0.59	2.47
Marital Status	0.01	0	0.99	0.65	1.51
Employment	0.56	0.87	0.57	0.17	1.86
Block 2					
SIM-AV	0.05	0.77	1.05	0.94	1.17
CMEM-V	-.01*	7.5	0.99	0.98	1
Block 3					
MS	.11*	0.92	0.9	0.85	0.95

Note. n = 111, Criterion variable: Criminal History Composite Score, Predictor variables: SIM-AV=Social Intelligence Measure-Adult Version, CMEM-V = Child Molester Empathy Measure-Victim Empathy, MS = Molest Scale.

However, it allows one to compare theoretically determined causal models of the relationships between variables.

In order to evaluate the model proposed in this path analysis, a series of linear regressions were performed for child molesters to evaluate which route best described the relationship between social competency variables and sexual aggression. The model examined the path for the proposed sequence, which suggested that social intelligence was negatively related to cognitive distortions, which are negatively related to victim empathy, which is negatively related to sexual aggression. In order to evaluate the best route, and determine if empathy and cognitive distortions help explain the order of relationships between social intelligence and sexual aggression, the beta weights for the direct route were compared to the product of the beta weights for the indirect route. These results are summarized in Table 6.

Direct route for proposed path:

Social intelligence   Sexual Aggression

= -0.17

Indirect route 1:

Social intelligence   Victim Empathy
Sexual Aggression

.19 X -.18 = -.03

Indirect route 2:

Social intelligence   Cognitive distortions
Victim Empathy   Sexual Aggression

-.10 X -.13 X -.18 = -.002

The predictive strength of a path is denoted by larger beta weight values. The strongest route was the direct path between social intelligence and sexual aggression, such that social intelligence has a negative impact on sexual aggression (-0.17). Indirect routes were not significantly improved upon by the addition of cognitive distortions or victim empathy.

In evaluating the total effect for indirect routes, the summed totals associated with the indirect routes are added together.

Total indirect effect:

Indirect route 1 + indirect route 2 = -.03 + -.002 = -.03

Table 6: Series of Regressions for Path Analysis Evaluating Relative Routes to Sexual Aggression in Child Molesters.

Predictor Variables		*t*	*p*
Regression 1 (CH)			
SIM-AV	-0.17	-0.2	0.04
CMEM-V	-0.18	-5.33	0.02
MS	0.04	0.42	0.97
Regression 2 (CMEM-V)			
SIM-AV	0.19	0.81	0.02
MS	-0.13	-2.12	0.28
Regression 3 (MS)			
SIM-AV	-0.1	-0.42	0.68

To evaluate the total causal effect of all routes considered between social intelligence and sexual aggression, the summed totals of the indirect routes are added to the coefficient of the direct route.

Total causal effect:

Direct route + total indirect effect = -0.17 + -0.03 = -.20

Therefore, based on these comparisons, some explanatory strength is added by the inclusion of empathy and cognitive distortions when describing the sequence of the relationship between social intelligence and sexual aggression in child molesters. However, it is quite modest, and the direct route offers the strongest explanation statistically. Figure 1 represents the various routes and their weights.

DISCUSSION

The present study proposed and tested a model explaining the role of social competence in men who sexually offend against children. The first hypothesis was supported by differences observed between groups with respect to social intelligence, victim empathy, and cognitive distortions. This finding is consistent with previous research findings, which suggest that as a group, child molesters demonstrate deficits in 1) the skills necessary for effective adult social interaction [4,39], 2) empathy experienced toward their own victims, and 3) attitudes and beliefs regarding sexual contact with children.

As a further step toward understanding how these various factors were related to sexual aggression in an integrated way, hypothesis two tested the ability of social competence to predict sexual aggression. Social competency variables were collectively predictive of sexual aggression. This finding provides support for the role of social functioning proposed in many important causal theories of sexual abuse [4,31,40]. The fact that the concept of social competence, as defined here, can help us classify this group of sexual offenders, and account for more variance than any single predictor suggests that there is merit in organizing factors together to enhance our understanding of sexual aggression against children [3]. Of further interest was the support for the specific contributions of cognitive distortions and victim empathy in categorizing child molesters, given their proposed roles as central to social competency as a construct.

The hypothesis that the order of relationships between social intelligence and sexual aggression would be accentuated by cognitive distortions and empathy was not supported. The proposed indirect routes were not stronger than the direct route between social intelligence and sexual aggression. This finding suggests that the addition of cognitive distortions and general/victim empathy in the proposed sequence doesn't help explain how social competency variables are related to one another in their association to sexual aggression, or may already be captured by the construct of social intelligence [18]. The regression analysis confirmed that these variables help us explain sexual aggression. However, it may be that the variables are related in a different order or path.

Interestingly, despite the limited strength associated with proposed routes, the direction or nature of the relationships was as predicted. Based on the present research, the role of social

functioning in explaining sexual aggression appears promising. However, we must continue to examine the manner in which these and other causal or maintaining variables are related to one another in their collective contribution to sexual offending.

CLINICAL IMPLICATIONS

Although ongoing research is necessary to determine the integrated role of social competency factors in sexual aggression, the present results may have implications for the treatment of sexual offenders. Currently, social skills, empathy and cognitive distortions are components of many standardized treatments offered to sexual offenders. The justification for the inclusion of such treatment targets is based on evidence which suggests that sexual offenders are, in part, characterized by skills deficits in these domains [41], and that such deficits are related to sexual aggression [28]. The present study showed that when the constructs are examined as an integrated whole, there was evidence that negative beliefs and attitudes about sexual contact with children were predictive of empathy deficits, which is congruent with the research on how offence specific excuse-making or justification inhibits empathic responding [22]. Furthermore, the current study suggests that these empathy deficits predicted sexual aggression in child molesters in association with such beliefs and attitudes [12].

The observed indirect path to aggression suggests that factors such as empathy and cognitive distortions may not need to be independent treatment targets, but instead may be considered together and possibly in a similar sequence to what is proposed here. For example, there may be some therapeutic benefit to improving social functioning, and then addressing and challenging cognitive distortions intellectually, before engaging sexual offenders in exercises aimed at increasing the emotional experiencing related to victims or otherwise.

LIMITATIONS AND FUTURE RESEARCH

It is generally accepted that not all sexual offenders are represented by those who are ultimately charged and convicted.

However, a strength of this study was the sample, in that participants were drawn from all eligible sexual offenders within a region of the federal prison system. The participants are quite representative in that they match the group of offenders most likely to receive treatment, upon which much of the previous research has been conducted, and from which the present hypotheses were derived.

Certain issues warrant cautious interpretation of the results of the current study. Design and conceptual issues are addressed in turn. The study sought to explain various factors from an etiological perspective, and in fact the use of path analysis is a strategy for executing such a goal, particularly when one is restricted by sample size. However, the research remains correlational and as such, the causal direction of relationships can be theoretically interpreted, but the strength is limited without a prospective design. The use of self-report measurement also represents a limitation of the present study, and assessment of socially desirable responding confirmed that this method biased the data collected. Future research may attempt to employ objective measures (e.g. Implicit Associations Test [42]), such as an experimental manipulation, or observation.

Another consideration is the variables selected in the operationalization of social competence. Intimacy deficits have been identified in etiological theories about sexual offending [4,40,43,44-47]. The inability to forge intimate connections with adult partners may be a more appropriate bridge between social intelligence and aggression, such that social intelligence deficits may contribute to problems with intimacy more directly. However, according to Ward and Siegert's [2], pathways model, all sexual offenders, including child molesters may be a heterogeneous group, characterized by different pathways to offending, rather than simply target victims. This theory proposes that each pathway is characterized by a primary dysfunctional psychological mechanism, which constitutes a vulnerability factor, and ultimately plays a causal role in child sexual abuse. Therefore, instead of social intelligence or cognitive distortions about sexual offending, factors such as intimacy deficits (pathway
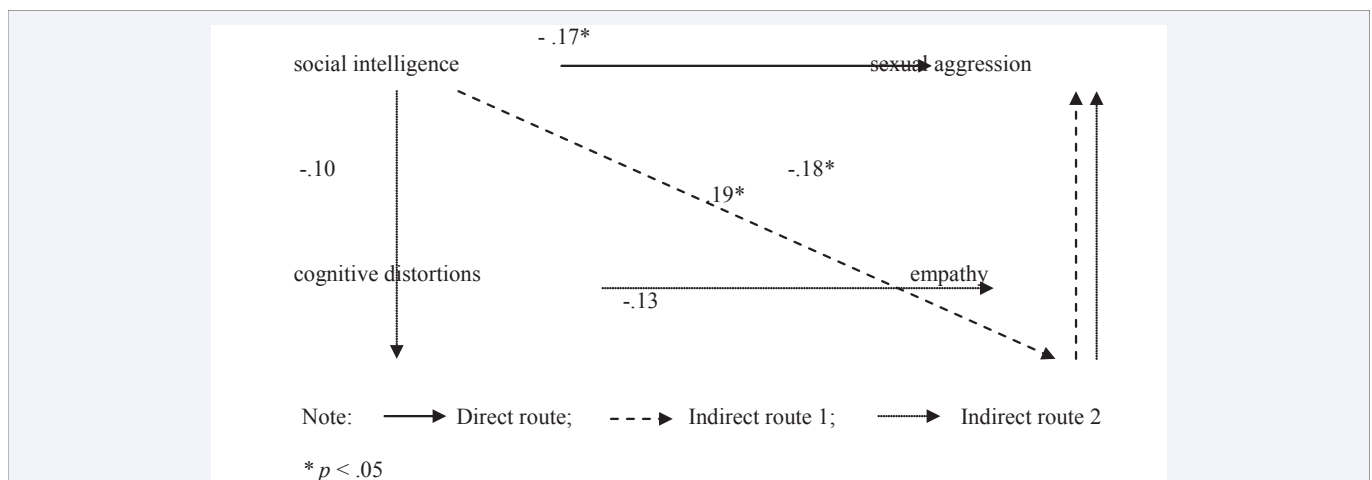

Figure 1 Direct and indirect paths between social intelligence, cognitive distortions, empathy, and aggression in child molesters. The direct route is identified with a solid line, and the proposed indirect route, through cognitive distortions and victim empathy, is expressed with the dotted line. Another indirect was also examined, which was based on the model of aggression proposed by Björkvist, Österman, and Kaukiainen (2000) in which social intelligence is related to aggression through empathy.

1), deviant sexual scripts (pathway 2), emotional dysregulation (pathway 3), antisocial cognitions (pathway 4), or a combination of these factors may interact with the basic model of aggression to predict sexual abuse. Future research is necessary to elucidate the relationship of such constructs and sexually aggressive behaviour in child molesters. This first attempt at examining how these factors are integrated in a theoretically consistent way suggests that we need to move beyond evaluating single constructs, and continue investigating how variables interact in etiological models regarding social functioning.

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