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Predictors of Child Molestation

Adult Attachment, Cognitive Distortions, and Empathy

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A conceptual model derived from attachment theory was tested by examining adult attachment style, cognitive distortions, and both general and victim empathy in a sample of 61 paroled child molesters and 51 community controls. Results of logistic multiple regression showed that attachment anxiety, cognitive distortions, high general empathy but low victim empathy significantly increased the odds of child molester status. Findings supported theoretically based hypotheses, suggesting that attachment theory may be useful in the conceptualization and treatment of child molesters.

Keywords: child molestation; attachment; cognitive distortions

Over the past 20 years, research in sexual crimes has increased and provided evidence linking recidivism to several variables including lack of victim empathy, lack of intimate relationships, and cognitive distortions regarding adult–child sex (Burn & Brown, 2006; Hanson & Morton-Bourgon, 2005; Regehr & Glancy, 2001; Roberts, Doren, & Thornton, 2002; Scalora & Garbin, 2003; Ward & Marshall, 2004). However, many studies have been criticized for lacking a solid theoretical framework to describe the nature, development, and/or interaction among these correlated variables (Hudson & Ward, 1997; Kirsch & Becker, 2006; Roberts et al., 2002; Ward, Hudson, Johnston, & Marshall, 1997; Ward & Marshall, 2004). Researchers have recently turned to attachment theory to conceptualize sexual offending behavior (Craissati, McClurg, & Browne, 2002; Jamieson & Marshall, 2000; Lyn & Burton, 2005; Ward, Hudson, & Marshall, 1996), arguing that adult attachment style is related to cognitive distortions and a lack of victim empathy among sex offenders (Covell & Scalora, 2002; Ward, 2000). Despite early links between psychopathy and attachment disruption (Bowlby, 1944), studies investigating attachment processes among criminals, and specifically child molesters, are

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severely limited in number. The present study adopts the conceptual framework of attachment theory to examine a multifactorial model reflecting the contributions of romantic attachment style, cognitive distortions, and empathy to the prediction of child molester status.

The literature on sexual crimes is dominated by cognitive-behavioral approaches to explanation and treatment, with the current leading model emphasizing self-statements that child molesters use to deny, minimize, and rationalize their offending behavior (Bickley & Beech, 2001; Burn & Brown, 2006; Marshall, Anderson, & Fernandez, 1999). The self-statement model has become the foundation of many cognitive-behavioral treatment strategies that 88% of North American sex offender treatment providers claim to use (Witt, Rambus, & Bosley, 1996). This model of cognitive distortions focuses on the way sex offenders perceive and attend to the environment, the way they process information, and how they evaluate the consequences of their behavior (Burn & Brown, 2006; Vanhouche & Vertommen, 1999). Distorted thinking among sex offenders has also been viewed as interfering with the development of victim empathy (Covell & Scalora, 2002; Geer, Estupinan, & Manguno-Mire, 2000).

Yet, the traditional literature on cognitive distortions and sex offending lacks a coherent theory to systematically account for the nature of these distortions (Ward et al., 1997; Ward & Keenan, 1999; Ward & Marshall, 2004). Ward and colleagues pointed out that priority is given to examining the content of cognitive distortions, though few studies examine the process of developing and maintaining the distorted thinking. Some researchers have suggested that cognitive distortions among sex offenders emerge from underlying causal beliefs about themselves, their victims, and the world (Burn & Brown, 2006; Drake, Ward, Nathan, & Lee, 2001; Ward & Keenan, 1999). This conceptualization is consistent with research in developmental psychology which views cognitive development as driven by the acquisition of implicit theories that are believed to develop in early childhood when children form hypotheses about the self, others, and the world, test these predictions, and discard those that fail to predict behavior (Drake et al., 2001; Ward & Keenan, 1999). Ward and Keenan (1999) identified the use of five distinct implicit theories among sex offenders: children as sexual objects, entitlement, the dangerous world, lack of self-control, and the nature of harm. Although Ward (2000) suggested that the attachment system is related to the development of implicit theories, at this point in time, it is unclear how attachment organization is associated with implicit theories and the cognitive distortions that may characterize them.

According to Bowlby (1973), interactions with early attachment figures affect the developmental trajectory of the attachment system. Repeated interactions with available and responsive caregivers promote optimal functioning of the system and the development of positive internal working models of the self and relationships that contribute to low levels of anxiety or avoidance in attachment relationships (Bartholomew & Horowitz, 1991). Consequently, secure individuals demonstrate a healthy balance between autonomy and interpersonal connection. On the other hand, when attachment figures are not supportive or available, children develop negative internal working models that contribute to insecurity in attachment relationships (Bowlby, 1973). According to Bartholomew and her colleagues (Bartholomew, 1990; Bartholomew & Horowitz, 1991), "preoccupied" attachment reflects a negative view of self but a positive view of others, whereas "dismissing" attachment reflects a positive view of self but a negative view of others. "Fearful" attachment reflects a negative view of both self and others. A negative view of self is associated with attachment anxiety and a hyperactivating strategy of interpersonal relations, whereas a negative view of others is associated with attachment avoidance and a deactivating interpersonal strategy (Brennan, Clark, & Shaver, 1998; Mikulincer & Florian, 1998). Both strategies, alone or in combination, contribute to the imbalance between attachment to others and exploration or autonomy that characterizes insecure individuals.

Research has indicated that infant attachment experiences contribute to cognitive development, including capacity for executive storage, task completion, and problem solving (Meins & Russell, 1997). Secure children also appear to have a greater capacity for "theory of mind," which is a reflective function children develop to make attributions about the mental states of self and others (Fonagy, Gergely, Jurist, & Target 2002; Fonagy, Redfern, & Charman, 1997). Ward (2000) proposed that the development of a theory of mind is an important factor in the development of implicit theories among sex offenders. By interfering with theory of mind competence, unstable attachment relationships might contribute to the development of maladaptive implicit theories about self, others, and the world that in turn may engender cognitive distortions about relationships and sexual behavior that influence sex offending behavior. Although empirical studies testing this proposal are limited, some research does indicate that sex offenders are more likely to display insecure attachment styles than nonoffending males or victims of abuse (Fisher, Beech, & Browne, 1999; Jamieson & Marshall 2000; Marsa et al., 2004; Sawle & Colwell, 2001). For example, child molesters have been found to be more likely than nonoffenders to display

a fearful or preoccupied attachment style (Proeve, 2003; Ward & Hudson, 1996).

In addition to influencing the development of maladaptive implicit theories and cognitive distortions, attachment relationships also appear to contribute to the development of empathy and interpersonal functioning (Britton & Fuendeling, 2005; Fonagy et al., 2002; Kestenbaum, Farber, Ellen, & Sroufe, 1989). Several researchers have suggested that insecure attachment contributes to the lack of intimacy, social skills deficits, and impaired social relationships that are commonly found among sex offenders (Bumby & Hansen, 1997; Fisher & Howells, 1993; Hudson & Ward, 2000). Weinfield, Sroufe, Egeland, and Carlson (1999) argued that secure attachment is necessary for the adequate development of empathy because children model the attunement and sensitive responses of their caregivers. Both secure attachment and empathy imply a willingness to approach others, and both serve to facilitate functioning in interpersonal relationships (Joireman, Needham, & Cummings, 2001).

Although current evidence is mixed, it has been widely accepted that attachment history can affect the development of empathy among criminals generally (Goldstein, Higgins, & D'Alessandro, 2001) and sex offenders specifically (Covell & Scalora, 2002). However, the construct of victim empathy has not been accurately described when previously applied to sex offenders (Covell & Scalora, 2002). Traditionally, victim empathy has been described as a "trait" used to categorize offenders as either empathic or nonempathic. However, except in cases involving personality disorders, child molesters typically do not display a generalized deficit, or a complete lack of victim empathy (Puqlia, Stough, Carter, & Joseph, 2005). For example, child molesters display a comparable degree of empathy toward accident victims as nonoffending males, and despite showing little empathy toward their own victims, may even demonstrate empathy toward other victims of sexual abuse (Marshall et al., 1999). Because deficits in victim empathy may represent a function of self-protection, measures that assess empathy for victims of sexual abuse, as well as empathy across nonsexual situations, are better suited to identify offenders who are generally unable to display empathy from those who may be attempting to avoid guilt and shame (McGrath, Cann, & Konopasky, 1998).

In summary, the major tenets of attachment theory suggest that violence and crime are disorders of the attachment system that are made possible by a lack of concern for others, cognitive deficits or distortions in implicit theories (i.e., theories of mind), and an intense motivation to emotionally engage other people (Fonagy, 1999; Fonagy et al., 1997; Hayslett-McCall

& Bernard, 2002). Framed within this perspective and based on existing research, the present study extends the literature by examining the combined contributions of adult attachment style, cognitive distortions, and empathy to the prediction of child molester status. Specifically, it was predicted that high levels of both attachment anxiety and attachment avoidance, cognitive distortions regarding adult–child sex, and less empathy for victims of sexual abuse, but not general empathy, would significantly predict child molester status when compared to a group of community controls.

Method

Participants and Procedures

After receiving Institutional Review Board approval, community treatment providers were contacted and informed about the study. With the understanding that no access to participant responses would be allowed, the providers gave written consent for their clients to be approached about participating in the study prior to group therapy sessions. Sex offenders convicted of child molestation ($n = 61$) comprised the experimental group, and a control group ($n = 51$) was recruited through local businesses, neighborhoods, and churches. The controls were screened to ensure that none had been convicted of any type of crime nor had been the victim of sexual abuse. After signing consent forms, participants completed the questionnaire on-site or took it home and returned it a week later. The final sample consisted of 112 men between the ages of 21 and 69 ($M = 39.07$, $SD = 11.13$).

All of the child molesters were receiving sex offender treatment and were on probation for either felony or misdemeanor sexual offenses against a child. Duration of sex offender treatment varied, with 13.1% reporting less than a year, 44.3% between 1 and 3 years, 23% between 3 and 5 years, and 19.7% more than 5 years. Among offenders, 83.3% identified themselves as European American, 8.3% as African American, 6.7% as Hispanic or Mexican American, and 1.7% as "Other." One offender did not report his race. Among controls, 75.5% identified themselves as European American, 12.2% as African American, 10.2% as Hispanic or Mexican American, and 2.0% as "Other." Two controls did not report their race. The mean age for the offenders was 41.70 years ($SD = 10.39$), and the mean age for controls was 35.92 years ($SD = 11.27$).

Although attempts were made to match the experimental and control groups, preliminary analyses identified some demographic differences between

groups. Whereas Pearson chi-square results indicated no differences in terms of race, $\chi^2(1, N = 109) = 1.02, p = .31$, or education, $\chi^2(5, N = 112) = 3.94, p = .56$, significant differences emerged between the two groups in terms of income, $\chi^2(5, N = 111) = 12.43, p = .01$, and marital status, $\chi^2(2, N = 112) = 8.89, p = .01$. Control group participants were more likely to be married and earn a higher income (US$16,000+). An independent sample t test also revealed that controls were significantly younger than sex offenders, $t(112) = -2.82, p = .006$.

Measures

The *Experiences in Close Relationships Scale* (*ECR*; Brennan et al., 1998) is a 36-item self-report attachment measure for adults. The ECR yields scores on two subscales: Attachment Avoidance and Attachment Anxiety. Each subscale consists of 18 items drawn from other popular measures of adult attachment, and respondents rate their level of agreement with each item on a 7-point Likert scale. Respondents can also be classified into the four distinct styles of attachment proposed by Bartholomew and her colleagues (Bartholomew & Horowitz, 1991). The ECR has demonstrated high construct validity in correlations with other measures of attachment, ranging from .82 to .94. Test-retest reliability was established at .70.

The *Empat* (McGrath et al., 1998) was designed to assess empathy for victims of sexual abuse, as well as empathy for others in everyday situations. Thirty-four items measure empathy for victims of sexual abuse (Empat A); 18 items measure general empathy (Empat G). The scale uses a 5-point Likert scale and high scores are indicative of greater empathy. The authors reported the mean score for controls on the Empat A was 128.5 (*SD* = 17.42) and the mean for offenders who answered anonymously was 113.0 (*SD* = 26.44). The Empat was developed by comparing incarcerated sex offenders with a control group of university students. Initial studies indicate that the Empat has good internal reliability ($r = .92$) and discriminant validity in its ability to distinguish sex offenders from controls (Tierney & McCabe, 2001).

The *Child Molester Scale* (*CMS*; McGrath et al., 1998) was designed to assess cognitive distortions and the use of justification regarding adult–child sex on a 5-point Likert scale. The CMS consists of a total of 126 items. Twenty-two of these items assess cognitive distortions about adult–child sex, but offer justifications for the aberrant sexual behavior. These items are embedded among unrelated questions to reduce the ability of respondents to determine the purpose of the measure. Scores from the 22 items are summed together and high scores indicate fewer cognitive distortions. The developers reported that the mean score for controls on the CMS

was 83.8 (SD = 7.44) and the mean for offenders who answered anonymously was 72.5 (SD = 6.72). Although the internal reliability of the CMS has been reported to be only modest (.65), and the scale was developed by comparing incarcerated sex offenders with university students, initial studies indicate that the CMS is a promising measure with good discriminant validity that does not appear to be easily influenced by social desirability (Tierney & McCabe, 2001). The measure has been shown to distinguish child molesters from controls, and researchers have argued for the increased use of the CMS in future studies (Tierney & McCabe, 2001; Vanhouche & Vertommen, 1999).

The *Marlowe Crowne Social Desirability Scale* (*MCSDS*; Crowne & Marlowe, 1960) was designed to measure broad constructs by which respondents attempt to present themselves in a socially desirable manner. The scale has 33 items, and consists of two subscales: the Acquiescence subscale measures the tendency to attribute positive but unlikely characteristics, whereas the Denial subscale measures the tendency to deny negative but likely characteristics. Total scores that are greater than 13 are considered high and indicate social defensiveness. The MCSDS is commonly used to assess the honesty of respondents who are completing self-report measures and the validity and reliability of the scale is well documented (Tierney & McCabe, 2001).

Results

In terms of social desirability, an independent sample *t* test indicated that there was not a significant difference between child molesters and controls on the MCSDS Denial subscale, $t(97) = -1.38$, $p = .17$, or on the MCSDS Acquiescence subscale, $t(95) = -.58$, $p = .56$. These findings suggest that child molesters and controls responded in a similar manner to items on the MCSDS. However, given that the experimental and control groups were not matched on age, marital status, or income, these demographic variables were included as covariates to control for their effects in one logistic regression model that was compared to the original hypothesized model without the demographic variables.

Table 1 presents correlations and descriptive statistics for the major variables of interest. After ensuring that those with missing data did not systematically differ from other participants in terms of demographic variables, missing data for the ECR, CMS, EMPAT-G, and EMPAT-A were replaced using the mean replacement method separately for experimental

Table 1
Correlations, Means, and Standard Deviations
of ECR, CMS, EMPAT Scales

	Anxiety	Avoidance	CMS	Empat A	Empat G	Age (years)
Anxiety						
Avoidance	.31**					
CMS	−.08	−.003				
Empat A	−.22*	−.10	.29*			
Empat G	−.14	−.22*	.10	.32**		
Age (years)	.09	.09	−.12	−.20*	.12	
M	3.23	2.73	83.44	122	59.3	39.07
SD	1.35	1.08	9.28	19.43	8.21	11.13

Note: ECR = Experiences in Close Relationships Scale; CMS = Child Molester Scale; Empat A = victim empathy; Empat G = general empathy.
*$p < .05$. **$p < .01$.

and control groups. Logistic multiple regression analyses were conducted to test the two models predicting child molester status. In Model 1, the first block comprised the covariates of age and dichotomized variables for marital status (married, not married) and income (dichotomized at the point of distinction in preliminary analyses: US$15,000 and below, US$16,000 and above). The second block consisted of simultaneous entry of the two ECR adult attachment scales (Anxiety and Avoidance), the CMS total score, and the two EMPAT scales (General Empathy and Victim Empathy). In Model 2, the block of demographic variables was dropped, leaving only the five original predictors, which were entered simultaneously.

Table 2 presents the results of the logistic multiple regressions. In Model 1, the first block was significant, with two of the three demographic variables significantly contributing 21% of the variance accounted for. In logistic regression, exp(*B*) are the odds ratios, which are measures of effect sizes that indicate the strength and direction of the relationship between a predictor variable and the dependent variable when all other variables are held constant. Current findings indicated that older age significantly increased the odds of child molester status by 6%, whereas being married resulted in a 61% decrease in the odds. The second block was also significant and added 28% to the variance explained. None of the demographic variables remained significant and all of the block two predictors except attachment avoidance significantly contributed to the model. Although the full model

Table 2
Results of Logistic Regression Model

Step and/or Predictors	B (SE)	Wald's χ^2	Exp(B)[a]	df	Block χ^2	Model χ^2	Nagelkerke R^2
		MODEL 1					
Block 1				3	19.05***	19.05***	.21
1. Age	.06 (.02)	8.71**	1.06	1			
Marital status	−1.14 (.44)	6.53**	.32	1			
Income	−1.00 (.92)	1.18	.37	1			
Constant	−.61 (1.01)	.36	.54	1			
Block 2				5	32.78*	51.83***	.49
1. Age	.04 (.02)	2.55	1.04	1			
Marital status	.98 (.54)	3.32	.37	1			
Income	.76 (1.05)	.52	.47	1			
2. Attachment avoidance	.15 (.25)	.35	1.16	1			
Attachment anxiety	.43 (.21)	4.31*	1.54	1			
Cognitive distortion	−.10 (.03)	8.26**	.91	1			
General empathy	.14 (.04)	10.91***	1.15	1			
Victim empathy	−.05 (.02)	7.23**	.95	1			
Constant	3.87 (3.50)	1.22	48.01	1			
		MODEL 2					
Parsimonious model				5—NA		45.21***	.44
Attachment avoidance	.24 (.25)	.99	1.28	1			
Attachment anxiety	.44 (.20)	4.83*	1.56	1			
Cognitive distortion	−1.11 (.03)	12.20***	.89	1			
General empathy	.14 (.04)	12.77***	1.15	1			
Victim empathy	−.05 (.02)	7.70**	.95	1			
Constant	4.97 (3.35)	2.21	143.97	1			

Model Comparison	−2LL[b]	df	Hosmer and Lemeshow[c] χ^2	p
Model 1	102.54	8	15.42	.051
Model 2	109.16	5	6.35	.608
χ^2 difference test	7.04 < critical value	3		

a. Exp(B) = odds ratio.
b. LL = log likelihood, −2LL = deviation χ^2.
c. Hosmer and Lemeshow χ^2 is a goodness-of-fit test that if significant indicates that the model is *not* a good fit to the data.
* $p < .05$. ** $p < .01$. *** $p < .001$.

chi-square was significant and accounted for 49% of the variance, the Hosmer and Lemeshow's goodness-of-fit test indicated that the full model was not a good fit to the data, $\chi^2(8, N = 112) = 15.42$, $p = .05$.

Model 2 dropped the demographic variables to test a parsimonious model representing the original hypothesized model. As shown in Table 2, the Model 2 chi-square was significant and accounted for 44% of the variance, with 77% of all participants accurately classified as controls or child molesters. The Hosmer and Lemeshow's goodness-of-fit test was not significant, $\chi^2(5, N = 112) = 6.35$, $p = .61$, indicating that the parsimonious model was a good fit to the data. Contrary to hypotheses, attachment avoidance was nonsignificant, but all other variables significantly contributed to prediction of child molester status as expected. An examination of the odds ratios for each predictor revealed that increasing levels of attachment anxiety and general empathy raised the odds of child molester status by 56% and 15%, respectively. In contrast, fewer cognitive distortions and greater victim empathy were associated with decreases of 11% and 5%, respectively, in the odds of child molester status. In addition to goodness-of-fit evidence that Model 2 is a better fit to the data than Model 1, the chi-square difference method indicated that dropping the demographic variables made no difference in prediction of child molester status and for reasons of parsimony could be dropped from the model (see Table 2).

Discussion

With few exceptions, current findings support predictions derived from attachment theory and the empirical literature on child molestation, extending our understanding of the processes that potentially contribute to the development of child molesting behavior. Specifically, the final logistic regression model suggests that adult attachment anxiety, cognitive distortions regarding adult–child sex, and inconsistent empathic attitudes together predict a substantial degree of variance in child molester status. This empirical model presents a theoretically supported representation integrating various constructs considered to be important contributors to the development and maintenance of child molestation behavior, but which have previously been considered only alone or in pairs.

Consistent with predictions based on studies reporting associations between child molestation and both preoccupied and fearful attachment (Baker & Beech, 2004; Hudson & Ward, 1997), attachment anxiety was a significant predictor of child molester status and demonstrated the highest odds ratio of all the predictors, indicating that the odds of child molester status increased by 56% with unit increments in attachment anxiety. However, contrary to expectations, attachment avoidance was not a significant predictor of

child molester status. This discrepancy is nevertheless consistent with Fonagy's (Fonagy, Target, et al., 1997) theoretical model of violence and crime as "disorders of the attachment system . . . permitted by lack of concern for others . . . and motivated by distorted desires to engage the other in emotionally significant interchange" (p. 230). From a theoretical standpoint, individuals with high levels of attachment anxiety are likely to be overly preoccupied with the availability of others and consequently demonstrate highly emotional and intrusive or merging behaviors, which would be consistent with Fonagy's latter description. Although Hudson and Ward (1997) reported that "fearful" attachment style was characteristic of sex offenders, current findings suggest that it is the negative model of self and intense abandonment fears associated with attachment anxiety among both "preoccupied" and "fearful" adults, rather than the negative model of others common to both "dismissing" and "fearful" adults, that contributes to the link between fearful attachment style and sex offenders. Unlike fearful individuals, dismissing adults maintain a positive model of the self and are unlikely to suffer from low self-esteem because their typical coping strategy entails denial, externalization of blame, and lack of concern for others. Baker and Beech (2004) argued that child molesters are not likely to display dismissing attachment, which is more compatible with the extreme hostility and devaluation of others displayed by rapists. By extending Fonagy's theory, it seems plausible that attachment patterns characterized by intense desires to engage others may be related to different types of crime than attachment patterns that involve dismissing the importance of others. Further research comparing groups of different types of offenders is needed to answer this important question.

The significant contribution of attachment anxiety suggests that child molesters, as a group, tend to have negative internal working models of self and experience high levels of anxiety in adult romantic relationships. This finding is consistent with previous literature showing that sex offenders display high levels of general anxiety (Eher, Neuwirth, Fruehwald, & Frottie, 2003; Hoyer, Kunst, & Schmidt, 2001) and frequently report lower self-esteem (Fisher & Howells, 1993; Marshall, Champagne, & Miller, 1997; Marshall & Mazzucco, 1995; Ward & Marshall, 2004). A relational strategy characterized by attachment anxiety likely reflects child molesters' characteristic fear of rejection from adult romantic partners, preference for interacting with children (Ward 2000), perceptions of being exploitable, and a fear of being negatively evaluated by others (Eher et al., 1999). Marshall and Mazzucco (1995) argued that child molesters are initially attracted to children because low self-worth contributes to a view of adult

peers as threatening, whereas children are viewed as submissive and non-threatening. In addition, based on the idea that self-esteem among child molesters is likely to have domain-specific influences on sex offending behavior (Marshall, Champage, Sturgeon, & Bryc, 1997), current findings suggest that the association between self-esteem and deviant sexual arousal might be better understood in the context of adult romantic relationships, as opposed to general social relationships. Attention to negative internal working models of self within romantic attachment relationships may increase the effectiveness of sex offender treatment.

As hypothesized, cognitive distortions about adult–child sex on the CMS significantly contributed to the prediction of child molester status. This result is consistent with and extends McGrath et al.'s (1998) findings of differences between incarcerated offenders and university students to a broader population comprised of a group of community controls and a group of convicted sex offenders who were out on probation and currently receiving sex offender treatment. Because almost half of the offenders (43.6%) in this sample reported being involved with sex offender treatment for more than 3 years, current results suggest that many sex offenders may continue to hold distorted beliefs about adult–child sex despite receiving counseling to reduce such distortions. Although treatment progress was not assessed, raising the possibility that the offenders would have scored even lower on the CMS prior to receiving treatment, other research also suggests that many sex offenders involved in treatment continue to endorse more cognitive distortions than nonoffenders (Marshall, 1999). Marshall argued that posttreatment supervision of sex offenders is not effective because of the common lack of a relapse prevention plan that monitors cognitive distortions. The present study supports the notion that cognitive distortions of sex offenders should be continually monitored, regardless of whether offenders have completed treatment.

As predicted, lower levels of empathy for sexual assault victims were associated with child molester status. Unexpectedly, however, higher levels of general empathy were also associated with child molester status. Conceivably, low victim empathy may function to protect the child molester from the dissonance created by molesting behavior in the context of general empathy for others. It is interesting to examine this finding in light of results for attachment avoidance and anxiety. Whereas attachment avoidance often involves automatic self-protective mechanisms (e.g., denial, blame), attachment anxiety is associated with hyperactivating strategies that may increase distress and worry. Consequently, individuals with high levels of attachment anxiety and some degree of general empathy may have to engage in

more extreme forms of cognitive distortion about adult–child sex and victim empathy to justify the molesting behavior. More broadly, these findings support the contention that victim empathy should not be regarded as a "trait," nor should offenders be classified as either empathic or nonempathic (Marshall et al., 1999; Puqlia et al., 2005). Classifying offenders in such ways can result in mistakenly attributing gains in empathy toward others (nonvictims) as progress in treatment. The present study provides evidence that child molesters may display general empathy comparable to and even greater than nonoffenders, but might have more difficulty displaying victim empathy despite receiving sex offender treatment. Current results also suggest that clinicians may find the Empat A useful for ongoing monitoring of victim empathy during posttreatment supervision and relapse prevention.

Current findings should be interpreted in light of several limitations. The exclusive use of self-report measures always involves the risk of response bias and common method variance. Although the present study included a measure of social desirability, it is still possible that participants "faked good." Studies utilizing other assessment methodologies, such as interviews and/or third-party reports, would be useful in addressing this limitation. The sample size was comparable to previous empirical studies (Eher et al., 1999; Lee, Jackson, Pattison, & Ward, 2002; Marsa et al., 2004; Romano & De Luca, 1997); however, a larger sample would increase statistical power. In addition, treatment progress was not assessed and it is possible that child molesters who display positive treatment progress may be quite different from offenders who display poor progress.

Although logistic regression analysis tests a causal model assuming that the predictor variables are antecedents rather than potential consequences of child molestation, the current study does not establish any causal relationships. Rather, present results identify factors that appear to differentiate community controls from convicted child molesters. Despite the theoretical prediction that the attachment system contributes to stylistic relational patterns, cognitive distortions, and empathy, longitudinal designs are needed to determine the developmental sources and trajectories of these factors in relation to child molestation. In particular, it is important to emphasize that the focus of the current study was on adult attachment style, which differs considerably from early parent–child attachment (Riggs et al., in press). Theoretically, the parent–child bond precedes and influences the development of not only adult attachment style but also cognitive distortions and empathy. Additional research is needed to determine how associations between these two different attachment constructs and child molesting behaviors converge

and diverge, and whether parent–child attachment may be the etiological origin of links between child molester status and the variables examined in this study.

The present study addressed the some of the methodological limitations of previous studies and extended the literature by providing support for a comprehensive multifactor model of child molestation derived from attachment theory. Specifically, results suggested that attachment anxiety in the context of romantic relationships was a strong predictor of child molester status. Furthermore, cognitive distortions and empathy, both of which are thought to arise from insecure attachment in childhood, emerged as significant predictors of child molester status. Although comparing child molesters to nonoffenders can increase our knowledge base regarding characteristics of child molesters that may be useful in both prevention and intervention efforts, future studies may wish to explore potential within-group differences among child molesters and other sex offenders because significant heterogeneity and variables such as nature of the crime, number of victims, and childhood history may produce different outcomes (Lee et al., 2002; Marshall et al., 1995).

References

Baker, E., & Beech, A. (2004) Dissociation and variability of adult attachment dimensions and early maladaptive schemas in sexual and violent offender. *Journal of Interpersonal Violence*, *19*, 1119-1136.

Bartholomew, K. (1990). Avoidance of intimacy: An attachment prospective. *Journal of Social and Personal Relationships*, *7*, 147-178.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among adults: A test of four category model. *Journal of Personality and Social Psychology*, *61*, 226-244.

Bernstein, D., & Fink, L. (1998). *Childhood trauma questionnaire: A retrospective self-report manual*. San Antonio, TX: The Psychological Corporation.

Bickley, J., & Beech, A. (2001). Classifying child abusers: Its relevance to theory and clinical practice. *International Journal of Offender Therapy and Comparative Criminology*, *45*, 51-69.

Bowlby, J. (1944). Forty-four juvenile thieves: Their characters and home life. *International Journal of Psychoanalysis*, *39*, 350-373.

Bowlby, J. (1973). *Attachment and loss: Separation, anxiety, and anger*. New York: Basic Books.

Brennan, K., Clark, C., & Shaver, P. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York: Guilford.

Britton, P., & Fuendeling, J. (2005). The relations among varieties of adult attachment and the components of empathy. *Journal of Social Psychology*, *145*, 519-530.

Bumby, K., & Hansen, D. (1997). Intimacy deficits, fear of intimacy, and loneliness among sexual offenders. *Criminal Justice and Behavior*, *24*, 315-331.

Burn, M., & Brown, S. (2006). A review of the cognitive distortions in child sex offenders: An examination of the motivations and mechanisms that underlie the justification for abuse. *Aggression and Violent Behavior*, *11*, 225-236.

Covell, C., & Scalora, M. (2002). Empathic deficits in sexual offenders: An integration of affective, social, and cognitive constructs. *Aggression and Violent Behavior*, *7*, 251-270.

Craissati, J., McClurg, G., & Browne, K. (2002). The parental bonding experiences of sex offenders: A comparison between child molesters and rapist. *Child Abuse & Neglect*, *26*(9), 909-921.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, *24*, 349-354.

Drake, C., Ward, T., Nathan, P., & Lee, J. (2001). Challenging the cognitive distortions of child molesters: An implicit theory approach. *The Journal of Sexual Aggression*, *7*, 25-40.

Eher, R., Fruehwald, S., Aigner, M., Schidl-Mohl, S., Frottie, P., Dwyer, M., et al. (1999). Discrimination among incarcerated sexual offenders by their perception of interpersonal problems and experience-related anxiety. *Journal of Behavioral Therapy and Experimental Psychiatry*, *30*, 93-103.

Eher, R., Neuwirth, W., Fruehwald, S., & Frottie, P. (2003). Sexualization and lifestyle impulsivity: Clinically valid discriminators in sexual offenders. *International Journal of Offender Therapy and Comparative Criminolgy*, *47*, 452-267.

Fisher, D., Beech, A., & Browne, K. (1999). Comparison of sex offenders to nonoffenders on selected psychological measures. *International Journal of Offender Therapy and Comparative Criminology*, *43*, 473-491.

Fisher, D., & Howells, K. (1993). Social relationships in sexual offenders. *Sexual and Marital Therapy*, *2*, 123-136.

Fonagy, P. (1999). Attachment, the development of the self, and its pathology in personality disorders. In J. Derksen, C. Maffei & H. Groen (Eds.), *Treatment of personality disorders* (pp. 53-68). New York: Kluwer Academic Press.

Fonagy, P., Gergely, G., Jurist, E., & Target, M. (2002). *Affect regulation, mentalization, and the development of the self*. New York: Other Press.

Fonagy, P., Redfern, S., & Charman, T., (1997). The relationship between belief–desire reasoning and a projective measure of attachment security. *British Journal of Developmental Psychology*, *15*, 51-61.

Fonagy, P., Target, M., Steele, M., Steele, H., Leigh, T., Levinson, A., et al. (1997). Morality, disruptive behavior, borderline personality disorder, crime, and their relationship to security of attachment. In L. Atkinson & K. J. Zucker (Eds.), *Attachment and psychopathology* (pp. 223-274). New York: Guilford.

Geer, J., Estupinan, L., & Manguno-Mire, G. (2000). Empathy, social skills, and other relevant cognitive processes in rapist and child molesters. *Aggression and Violent Behavior*, *5*, 99-126.

Goldstein, H., Higgins, O., & D'Alessandro, A. (2001). Empathy and attachment in relation to violent vs. non-violent offense history among jail inmates. *Journal of Offender Rehabilitation*, *32*, 31-53.

Hanson, K., & Morton-Bourgon, K. (2005). The characteristics of persistent sexual offenders: A meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology*, *73*, 1154-1163.

Hayslett-McCall, K., & Bernard, T. (2002). Attachment, masculinity, and self-control: A theory of male crime rates. *Theoretical Criminology*, *6*, 5-33.

Hoyer, J., Kunst, H., & Schmidt, A. (2001). Social phobia as a comorbid condition in sex offenders with paraphilla or impulse control disorder. *Journal of Nervous and Mental Disease*, *189*, 463-470.

Hudson, S., & Ward, T. (1996). Attachment style in sex offenders: A preliminary study. *Journal of Sex Research*, *33*, 17-26.

Hudson, S., & Ward, T. (1997). Intimacy, loneliness, and attachment style in sexual offenders. *Journal of Interpersonal Violence*, *12*, 323-339.

Hudson, S., & Ward, T. (2000). Interpersonal competency in sex offenders. *Behavior Modification*, *24*, 494-527.

Jamieson, S., & Marshall, W. (2000). Attachment styles and violence in child molesters. *Journal of Sexual Aggression*, *5*, 88-98.

Joireman, J., Needham, T., & Cummings, A. (2001). Relationship between dimensions of attachment and empathy. *North American Journal of Psychology*, *3*, 63-80.

Kestenbaum, R., Farber, E., Ellen, A., & Sroufe, A. (1989). Individual differences in empathy among preschoolers: Relations to attachment history. *New Directions for Child Development*, *44*, 51-64.

Kirsch, L., & Becker, J. (2006). Sexual offending: Theory of problems, theory of change, and implications for treatment effectiveness. *Aggression and Violent Behavior*, *11*, 208-224.

Lee, J., Jackson, H., Pattison, P., & Ward, T. (2002). Developmental risk factors for sexual offending. *Child Abuse & Neglect*, *26*, 73-92.

Lyn, T., & Burton, D. (2005). Attachment, anger, and anxiety of male sexual offenders. *Journal of Sexual Aggression*, *11*, 127-137.

Marsa, F., O'Reilly, G., Carr, A., Murphy, P., O'Sullivan, M., Cotter, A., et al. (2004). Attachment styles and psychological profiles of child sex offenders in Ireland. *Journal of Interpersonal Violence*, *19*, 228-251.

Marshall, W. (1999). Current status of North American assessment and treatment programs for sexual offenders. *Journal of Interpersonal Violence*, *14*, 221-239.

Marshall, W., Anderson, D., & Fernandez, Y. (1999). *Cognitive behavioral treatment of sexual offenders*. Chichester, UK: Wiley.

Marshall, W., Barbaree, H., & Fernandez, Y. (1995). Some aspects and social competence in sexual offenders. *Sexual Abuse: A Journal of Research and Treatment*, *7*, 113-127.

Marshall, W., Champage, F., Sturgeon, C., & Bryc, P. (1997). Increasing the self-esteem of child molesters. *Sexual Abuse*: *A Journal of Research and Treatment*, *9*, 321-333.

Marshall, W., Champagne, B., & Miller, S. (1997). Empathy, intimacy, loneliness, and self-esteem on nonfamiliar child molesters: A brief report. *Journal of Child Sexual Abuse*, *6*, 87-98.

Marshall, W., & Mazzucco, A. (1995). Self-esteem and parental attachments in child molesters. *Sexual Abuse*: *A Journal of Research and Treatment*, *4*, 279-285.

McGrath, M., Cann, S., & Konopasky, R. (1998). New measures of defensiveness empathy, and cognitive distortions for sexual offenders against children. *Sexual Abuse: A Journal of Research and Treatment*, *19*, 25-36.

Meins, E., & Russell, J. (1997). Security and symbolic play: The relation between security of attachment and executive capacity. *Journal of Developmental Psychology*, *15*, 63-76.

Mikulincer, M., & Florian, V. (1998). The relationship between adult attachment styles and emotional and cognitive reactions to stressful events. In J. Simpson & W. Rholes (Eds.), *Attachment theory and close relationships* (pp. 143-165). New York: Guilford.

Proeve, M. (2003). Responsivity factors in sexual offender treatment. In T. Ward, D. Laws, & S. Hudson (Eds.), *Sexual deviance: Issues and controversies* (pp. 244-261). Thousand Oaks, CA: Sage.

Puqlia, M., Stough, C., Carter, J., & Joseph, M. (2005). The emotional intelligence of adult sex offenders: Ability based EI assessment. *Journal of Sexual Aggression*, *11*, 249-258.

Regehr, C., & Glancy, G. (2001). Empathy and its influence on sexual misconduct. *Trauma, Violence, & Abuse*, *2*, 142-154.

Riggs, S. A., Paulson, A., Tunnel, E., Sahl, G., Atkison, H., & Ross, C. A. (in press). Attachment, personality and psychopathology among adult inpatients: Self-reported romantic attachment style vs. AAI states of mind. *Development and Psychopathology*.

Roberts, C., Doren, D., & Thornton, D. (2002). Dimensions associated with assessments of sex offender recidivism risk. *Criminal Justice and Behavior*, *29*, 569-589.

Romano, E., & De Luca, R. (1997). Exploring the relationship between childhood sexual abuse and adult sexual perpetration. *Journal of Family Violence*, *12*, 85-98.

Sawle, G., & Colwell, J.K., (2001). Adult attachment style and pedophilia: A development perspective. *International Journal of Offender Therapy and Comparative Criminology*, *45*, 32-50.

Scalora, M., & Garbin, C. (2003). A multivariate analysis of sex offender recidivism. *International Journal of Offender Therapy and Comparative Criminology*, *47*, 309-323.

Tierney, D., & McCabe, M. (2001). The assessment of denial, cognitive distortions, and victim empathy among pedophilic sex offenders: An evaluation of utility of self report measures. *Trauma, Violence, & Abuse*, *2*, 259-270.

Vanhouche, W., & Vertommen, H. (1999). Assessing cognitive distortions in sex offenders: A review of commonly used versus recently developed instrument. *Psychological Belgica*, *39*, 163-187.

Ward, T. (2000). Sexual offenders' cognitive distortions as implicit theories. *Aggression and Violent Behavior*, *5*, 491-507.

Ward, T., & Hudson, S. (1996). Attachment style in sex offenders: A preliminary study. *Journal of Sex Research*, *33*, 17-26.

Ward, T., Hudson, S., Johnston, L., & Marshall, W. (1997). Cognitive distortions in sex offenders: An integrative review: *Clinical Psychology Review*, *17*, 479-507.

Ward, T., Hudson, S. M., & Marshall, W. (1996). Attachment style in sex offenders: A preliminary study. *Journal of Sex Research*, *33*, 17-26.

Ward, T., & Keenan, T. (1999). Child molesters' implicit theories. *Journal of Interpersonal Violence*, *14*, 821-838.

Ward, T., & Marshall, W. (2004). Good lives, aetiology and the rehabilitation of sex offenders: A bridging story. *Journal of Sexual Aggression*, *10*, 153-169.

Weinfield, N. S., Sroufe, A., Egeland, B., & Carlson, E. (1999). The nature of individual differences in infant–caregiver attachment. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 68-88). New York: Guilford.

Witt, P., Rambus, E., & Bosley, T. (1996). Current developments in psychotherapy for child molesters. *Sexual and Marital Therapy*, *11*, 173-185.

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