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Academic Contributions

Sex Offender Research

Indirectly measuring what child sexual abusers think about themselves and children[1]

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This article briefly summarizes recent research by Nunes, Firestone and Baldwin (2007). An indirect measurement procedure, called the Implicit Association Test (IAT), was adapted to measure cognitions regarding self and children among 27 extrafamilial child molesters and 29 non-sex offenders. As expected, child molesters viewed children as more sexually attractive than did non-sex offenders. Among the molesters, viewing children as more sexually attractive and powerful was associated with greater risk of sexual recidivism as measured by actuarial risk assessment instruments. This research demonstrated that the IAT has much promise as a tool with which to study cognitions associated with sexual offending against children.

In current treatment programs delivered to sex offenders supervised by Correctional Service Canada (CSC), much effort is directed at remedying child molesters' problematic cognitions concerning themselves, their victims and other adults (Marshall, Anderson & Fernandez, 1999; Yates, Goguen, Nicholaichuk, Williams & Long, 2000). Many theorists have posited that these cognitions play a central role in offending. For example, it has been suggested that viewing self (relative to others) as negative, socially weak and sexually unattractive; and viewing children (relative to adults) as positive, socially weak and sexually attractive may play a role in the initiation as well as persistence of the sexual abuse of children (Finkelhor, 1984; Hall & Hirschman, 1992; Marshall & Barbaree, 1990). However, knowledge in the area remains incomplete due in part to limitations, such as susceptibility to dishonest responding, associated with some existing approaches to measurement.

In contrast to many of the assessment procedures commonly used with sex offenders, there is a procedure called the Implicit Association Test (Greenwald, McGhee & Schwartz, 1998) that is relatively easy to administer, inexpensive and unaffected by attempts at deceptive responding (see Nosek, Greenwald & Banaji, 2007, for a review). The Implicit Association Test (IAT) is a relative measure of

association strengths, which are inferred from response latencies (or reaction times) on various categorization tasks. A demonstration of the IAT procedure can be experienced at https://implicit.harvard.edu/implicit/. The IAT is described in more detail below.

Although few published studies have used the IAT with sex offenders (Gray, Brown, MacCulloch, Smith & Snowden, 2005; Mihailides, Devilly & Ward, 2004), the results are very encouraging. In the study summarized here (Nunes, Firestone & Baldwin, 2007), the primary goal was to use the IAT procedure to measure cognitions thought to play a role in child sexual abuse and test for the existence of differences between child molesters and non-sex offenders. In addition, the association between the IAT measures and risk of sexual recidivism was examined.

Method

Participants

Participants in the study were 27 extrafamilial child molesters and 29 non-sex offenders. All participants were adult male inmates in federal penitentiaries in the Ontario region of CSC.

Procedure

Implicit Association Test (IAT)

In the present study, IATs were designed to measure the domains of evaluation (pleasant vs. unpleasant), social power (powerful vs. weak) and sexual attractiveness (sexy vs. not sexy) in self (me vs. not me) and in children relative to adults (child vs. adult). This made for a total of six computer-administered IATs, which we called the *pleasant self IAT, powerful self IAT, sexy self IAT, pleasant child IAT, powerful child IAT, and sexy child IAT*. Each IAT consisted of one of two concepts (i.e., *me vs. not me* or *child vs. adult*) combined with one of three concepts (i.e., *pleasantness*, *powerfulness*, or *sexual attractiveness*).

The main components of the sexy child IAT are presented here to illustrate the procedure (see Figure 1). Participants were presented with a series of stimulus words in the centre of the computer screen that they sorted into one of four categories (*adult, child, sexy, or not sexy*) by pressing a computer key with either their left index finger (*d* key) or their right index finger (*k* key). Thus, two categories are indicated by one key while the remaining two categories are indicated by the other key. Response speed is expected to depend on the extent to which the categories that share one key are associated in one's memory. For someone who is primarily sexually attracted to adults, response speed should be quicker when sexy and adult share the same response key (as in the first screen in Figure 1) than when sexy and child share the same response key (as in the second screen in Figure 1). Conversely, for someone who is sexually attracted to children, the reverse would be expected.
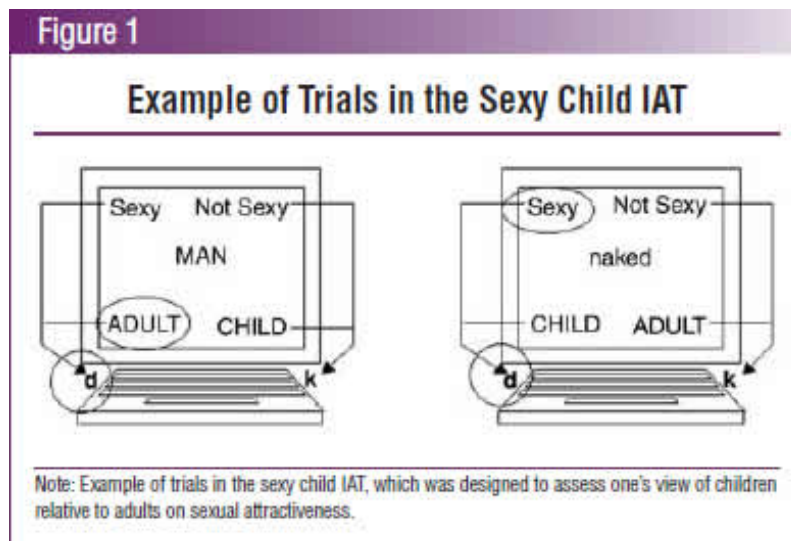
Figure 1

Example of Trials in the Sexy Child IAT

Note: Example of trials in the sexy child IAT, which was designed to assess one's view of children relative to adults on sexual attractiveness.

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Risk of sexual recidivism

Risk of sexual recidivism was estimated with two validated and commonly used instruments: the Rapid

Risk Assessment for Sexual Offense Recidivism (RRASOR) (Hanson, 1997) and the Static-99 (Hanson & Thornton, 2000). Scores on the RRASOR can range from 0 to 6 and scores on the Static-99 can range from 0 to 12. For both measures, higher scores reflect greater risk of sexual recidivism.

Results

IAT effects

Researchers commonly transform data on response times because they generally do not meet the assumptions required for many statistical analyses (Greenwald, McGhee & Schwartz, 1998). We followed the same procedure and calculated the natural logarithm (ln) of the raw response latencies (reaction times). This has the desired effect of bringing exceptionally slow responses closer to the rest of the response times while maintaining their original rank order. It is the transformed data on which all analyses were performed.

IAT *effects* were computed for each participant by subtracting his average (ln) response latency on the trials in one IAT condition (e.g., *adult* and *sexy* share the same response key) from his average response latency on the trials in the other condition (e.g., *child* and *sexy* share the same response key). Larger positive values on the pleasant self IAT, powerful self IAT, and the sexy self IAT effects suggest a view of self as, respectively, more pleasant, powerful and sexually attractive. With regard to the child IATs, larger positive values on the pleasant, powerful and sexy child IAT effects imply a view of children as, respectively, more pleasant, more powerful and more sexually attractive.

Comparing child molesters to non-sex offenders

One-way ANOVAs were performed to compare the child molesters and non-sex offenders on the IAT effects. In addition to significance tests, effect size estimates (correlation coefficient; *r*) were reported for each IAT effect to provide an indication of the magnitude of the differences between groups.

Table 1

Comparing Child Molesters to Non-Sex Offenders

IAT effect (ln)	Non-Sex Offenders		Child Molesters			
	n	M (SD)	n	M (SD)	F	r
Self						
Pleasant	28	0.26 (0.15)	25	0.33 (0.18)	1.83	.19
Powerful	28	0.01 (0.18)	26	0.01 (0.16)	0.02	.02
Sexy	27	0.31 (0.15)	21	0.24 (0.23)	1.27	-.16
Child						
Pleasant	29	0.00 (0.20)	27	0.08 (0.18)	2.49	.21
Powerful	28	-0.29 (0.15)	25	-0.27 (0.17)	0.30	.08
Sexy	29	-0.05 (0.20)	24	0.07 (0.16)	6.01*	.33

Note. Correlation coefficients (r) were reported as effect size estimates indicating the magnitude of the difference between groups.
ln = natural log; M = mean; SD = standard deviation.
* $p < .05$.

According to Cohen (1992), correlations around .10 are small, .30 are medium, and .50 are large. As shown in Table 1, only one of the analyses of the six IAT effects yielded results that were consistent with our theory-based expectations. The groups differed significantly in their sexy child IAT effects, suggesting that the child molesters viewed children as more sexually attractive than did the non-sex offenders.

. . . offenders who viewed children as more sexually attractive and more powerful were at greater risk for sexual recidivism.

Risk of sexual recidivism

In addition to comparing child molesters to non-sex offenders, it was also important to explore whether variation on the IATs was associated with risk of sexual recidivism. Only the child molesters were examined in these analyses. Risk was measured by the Static-99 and RRASOR, on which higher scores reflect greater risk of sexual recidivism. Average scores were 5.52 [standard deviation (SD) = 2.10] on the Static-99 and 3.26 (SD = 1.46) on the RRASOR.

Intercorrelations between the IAT effects (ln), the Static-99 and the RRASOR are presented in Table 2. As expected, greater risk on the Static-99 was significantly associated with higher sexy child IAT effects, which reflect a view of children as more sexually attractive. Contrary to expectations, however, greater risk on the RRASOR was significantly associated with higher powerful child IAT effects, which reflect a view of children as *more* powerful. Thus, offenders who viewed children as more sexually attractive and more powerful were at greater risk for sexual recidivism. There was also a trend toward significance in the expected direction with a more positive view of children on the pleasant child IAT associated with greater risk on the RRASOR (p < .10).

Discussion

As expected, child molesters viewed children as more sexually attractive than did non-sex offenders. Among the child molesters, viewing children as more sexually attractive and more powerful was associated with greater risk of sexual recidivism.

Although contrary to expectations, the association between the powerful child IAT and the RRASOR appears to fit well with justifications and rationalizations for sexual abuse of children sometimes endorsed by child molesters (Ward & Keenan, 1999) in which children are imbued with the power to make decisions about sexual activity with an adult (Abel, Becker & Cunningham-Rathner, 1984; Abel, Gore, Holland, Camp, Becker & Rathner, 1989; Bumby, 1996; Hanson, Gizzarelli & Scott, 1994).

The findings in the present study fit reasonably well with past research using penile plethysmography and viewing time to measure sexual interest in children (e.g., Abel, Jordan, Hand, Holland & Phipps, 2001; Barsetti, Earls, Lalaumière & Bélanger, 1998; Hanson & Morton-Bourgon, 2004; Hanson & Morton-Bourgon, 2005; Quinsey & Chaplin, 1988).

The current results have implications for the assessment and treatment of child molesters. The finding that greater risk of sexual recidivism was moderately associated, although not always significantly, with a view of children as more pleasant, powerful and sexually attractive as measured by the IAT suggests that these cognitions may be predictive of sexual recidivism. With the exception of sexual interest, cognitive predictors of sexual recidivism have been measured primarily by self-report methods with generally poor or unknown predictive validity (Hanson & Morton-Bourgon, 2004; Hanson & Morton-Bourgon, 2005). IAT measures may serve as a useful complement to existing assessment protocols in measuring cognitions thought to be related to risk of recidivism. Of course, application of the IAT to assessment and treatment would be contingent upon further encouraging results from a larger body of research (Gray, Brown, MacCulloch, Smith & Snowden, 2005; Nosek, Greenwald & Banaji, 2007).

Table 2

Intercorrelations between Measures of Risk and IAT Effects (ln) among Child Molesters

	RRASOR	IAT effect (ln)					
		Pleasant self	Powerful self	Sexy self	Pleasant child	Powerful child	Sexy child
Static-99	.78**	-.32	.28	.15	.05	.17	.43*
	(27)	(25)	(26)	(21)	(27)	(25)	(24)
RRASOR		-.31	.12	.23	.33†	.40*	.27
		(25)	(26)	(21)	(27)	(25)	(24)

Note. Sample size in parentheses.
ln = natural log.
† p < .10. * p < .05. ** p < .001.

Overall, the results of the current study suggest that (a) viewing children as sexually attractive may be a distinctive characteristic of child molesters compared to other criminals and (b) viewing children as more powerful and more sexually attractive may be associated with greater risk of sexual recidivism. The results suggest that the IAT has utility in assessing cognitions associated with sexually offending against children. The IAT appears to be a promising method of examining the cognitions of child molesters and an exciting area for future research.

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[1] Manuscript based on findings excerpted from Nunes, K.L. (2005). Implicitly measured cognitions of child molesters. Unpublished doctoral dissertation. Ottawa, ON: University of Ottawa. Advisor: Dr. Philip Firestone.
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