Indirectly Assessing Sexual Interest in Children: The Implicit Association Test

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Sexual Interest in Children

- Sexual interest in children is an important cause of child sexual abuse. It distinguishes:
  - Child molesters from nonmolesters
  - Persistent child molesters from child molesters who desist after conviction
  - (Hanson & Morton-Bourgon, 2004, 2005; Seto, Lalumière, & Kuban, 1999)
- Current methods are penile plethysmography (PPG) and self-report measures
- Recent studies suggest that the IAT may be a useful complement to currently used measures of sexual interest

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IAT Modified to Assess Sexual Interest in Children

Study	Groups	Total N	Cohen's d (95 % CI)	Power
Mihailides et al. (2004)	4 groups (25 child molesters, 25 nonsex offenders, 25 female university students, and 25 male university students)	100	0.63 (0.23-1.03)	.59
Gray et al. (2005)	2 groups (18 child molesters and 60 nonsex offenders)	78	0.84 (0.29-1.38)	.86
Nunes et al. (2007)	2 groups (27 child molesters and 29 nonsex offenders)	56	0.66 (0.12-1.19)	.68
Brown et al. (2008)	3 groups (54 child molesters with victims under the age of 12, 21 child molesters with victims between the age of 12 to 14, and 49 nonsex offenders)	124	0.92 (0.51-1.33)	.99

Note. Reported Cohen's *d* effect sizes are between child molesters and nonsex offenders. CI: Confidence Interval.

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Cumulative Meta-Analysis

- A large mean effect size was found ($d = 0.76$, 95% CI= 0.54-0.99)
- Findings were consistent across the four studies, $Q = 1.21$, $p < .05$

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Sexual Attraction to Children IAT

An example

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Test Block 1

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ADULT   CHILD
or   or
Sexy   Not sexy

ADULT   CHILD
or   or
Sexy   Not sexy

ADULT   CHILD
or   or
Sexy   Not sexy

beautiful

ADULT   CHILD
or   or
Sexy   Not sexy

beautiful

Second Testing Block

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CHILD — ADULT
or — or
Sexy — Not sexy

CHILD — ADULT
or — or
Sexy — Not sexy

CHILD — ADULT
or — or
Sexy — Not sexy

attractive

CHILD — ADULT
or — or
Sexy — Not sexy

attractive

Main Hypotheses

- **1)** Child molesters were expected to have greater sexual interest in children, as assessed by the SAC-IAT, than nonsex offenders
- **2)** It was predicted that the SAC-IAT would be associated with other measures of sexual interest
- **3)** Among child molesters, it was expected that higher scores on the SAC-IAT would be associated with greater risk of sexual recidivism as assessed by validated risk assessment instruments

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Participants

- 21 nonsex offenders (no history of charges or convictions for sex offences and self-reported sex offences)
- 34 child molesters (victim under the age of 12 in the current index offence)
  - This study and the subsequent study (*Attitude toward Child Sexual Abuse*-IAT) have the same participants

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Participants (Cont.)

- Of the Child molesters:
  - 5 incest offenders
  - 29 extrafamilial offenders
    - Offenders with both related and unrelated victims were grouped as extrafamilial offenders
- Participants were excluded if their scores on the Clarke Vocabulary Test (Paitich, 1977) were equal to or below 10

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Primary Measures

- Sexual Attraction to Children-IAT (SAC-IAT)
  - SAC-IAT *D* Score = Mean Reaction Time for Child & Sexy paring - Mean Reaction Time for Adult & Sexy paring
  - Higher scores indicate a stronger association between child and sexy than between adult and sexy

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Primary Measures (Cont.)

- Sexual Interest Profiling System (SIPS; Laws, 1986)
  - Subscales included:
    - Male and Female Pedophilia Subscales
    - Male and Female Incest Subscales
    - Adult Heterosexuality Subscale
    - Adult Homosexuality Subscale
- Scores = Peak child subscale – Peak adult subscale
  - Higher scores indicate greater sexual interest in children

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Primary Measures (Cont.)

- Viewing Time (VT) and VT responses:
  - Time spent viewing pictures (NRP Stimuli, Gress & Laws) was recorded (VT)
  - At the same time, participants were asked to rate the sexually attractiveness of the person depicted in the picture (VT response)
  - VT = Peak Viewing Time for Children – Viewing Time for Adults
  - VT Response = Peak Attractiveness Ratings for Children – Attractiveness Ratings for Adults
    - For both VT and VT response, higher scores indicate greater sexual interest in children

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Secondary Measures

- Only child molesters will have:
  - Penile Plethysmography (PPG)
  - Screening Scale for Pedophilic Interest (SSPI; Seto & Lalumière, 2001)
  - Risk assessment scales (Static-99, Stable-2000/2007)

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Descriptives

- Age:
  - 39.9 years (range: 21.6-69.3; *SD* = 13.12) for nonsex offenders and 50.1 years (range: 21.8-74.4; *SD* = 12.3) for child molesters
- Education level:
  - Nonsex offenders
    - 0% had below or equal to Grade 6
    - 70.6% had between Grade 7 to Grade 13
    - 29.4% had some postsecondary education
  - Child molesters.
    - 6.5% had below or equal to Grade 6
    - 64.5% had between Grade 7 to Grade 13
    - 29% had some postsecondary education
- Static-99 total score:
  - 4.0 (range: 0-10; *SD* = 2.5)

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Group Differences

Measure	Means ± SD (n)		Cohen's d (95% CI)
	Child Molesters	*Nonsex offenders*	
SAC-IAT	-0.15 ± 0.27 (34)	-0.22 ± 0.30 (21)	**0.22** (-0.33-0.77)
Viewing Time	0.11 ± 0.18 (31)	-0.08 ± 0.14 (20)	**1.15** (0.55-1.75)*
Viewing Time Responses	-0.92 ± 2.09 (31)	-1.49 ± 1.11 (20)	**0.32** (-0.24-0.89)
SIPS	-3.47 ± 2.17 (33)	-5.03 ± 1.30 (22)	**0.83** (0.27-1.40)*

Note. SAC-IAT: Sexual Attraction to Children-Implicit Association Test.
SIPS: Sexual Interest Profiling System.
* *p* < .05.

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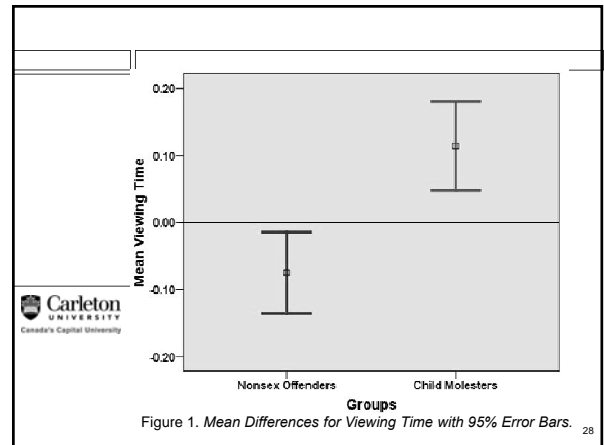*Note.* SAC-IAT: Sexual Attraction to Children-Implicit Association Test.
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Figure 1. *Mean Differences for Viewing Time with 95% Error Bars.*

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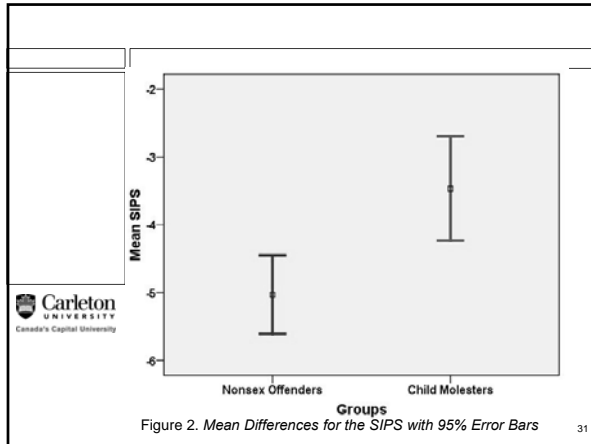SIPS: Sexual Interest Profiling System.
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Figure 2. *Mean Differences for the SIPS with 95% Error Bars*

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Why were groups not different on the SAC-IAT?

– Age
- Age can increase the IAT *D* score (Greenwald & Nosek, 2001; Hummert, Garstka, O'Brien, Greenwald, & Mellott, 2002)

– Incest offenders
- Have been reported as having less sexual interest in children and, in some studies, to have similar arousal than nonsex offenders (Freund, Watson, & Dickey, 1991; Grossman, Cavanaugh, & Haywood, 1992)

– Time since last sex offence
- May be negatively related to the SAC-IAT

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– Gender Preference
- IAT D is calculated using the mean reaction time of both genders
- We computed two SAC-IAT score, one using only female pictures (SAC-IAT Female) and one with only male picture (SAC-IAT Male) and collapse the three SAC-IAT into one variable depending on offender sexual orientation
- The SAC-IAT taking sexual preference into consideration did not distinguish between groups, $F(1,54) = .26$, $p = .61$, Cohen's $d = 0.14$ (-.40-.69)

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Does the SAC-IAT relate with other measures of sexual interest?

Measures	SAC-IAT	SAC-IAT Preference
	r (*n*)	
SAC-IAT	-	-
SAC-IAT Preference	.96*** (56)	-
SIPS	.26** (55)	.23* (55)
VT	.33** (52)	.31** (52)
VT Response	.24* (52)	.24* (52)
SSPI	-.09 (34)	-.08 (34)
PPG	.32 (19)	.43* (19)

Note. SAC-IAT: Sexual Attraction to Children-Implicit Association Test. SIPS: Sexual Interest Profiling System. VT: Viewing Time. SSPI: Screening Scale for Pedophilic Interests. PPG: Penile Plethysmography.
* p < .1, ** p < .05, *** p < .01.

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Is the SAC-IAT related with risk of sexual recidivism?

Measures		SAC-IAT	SAC-IAT Preference
		r (*n*)	
Static-99		-.09 (24)	-.07 (24)
Stable Measure		.023(23)	.07 (23)
Deviance Item		.49** (23)	.52*** (23)

Note. SAC-IAT: Sexual Attraction to Children-Implicit Association Test.
* p < .1, ** p < .05, *** p < .01.

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Discussion
- The SAC-IAT was not able to differentiate between groups
- The SAC-IAT was correlated to other measures of sexual interest
- The SAC-IAT had a moderate to large correlation coefficient with PPG
- Future Research:
  – Take into account gender preference

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Discussion (Cont.)
- Cumulative Meta-Analysis:
  – Compared with previous findings, the association between SAC-IAT and group membership was not statistically different in our study ($Q\Delta = 3.27, p > .05$)
  – New cumulative mean effect size: $d = 0.68$ (95% CI: 0.47-0.89)
  – When the increase in variability ($Q\Delta = 3.27$) was added to the old variability ($Qold = 1.21$), the total variability was no more than would be expected by chance ($Qnew = 4.48, p < .05$)

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