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Biological Fathers and Stepfathers Who Molest Their Daughters:  
Psychological, Phallometric and Criminal Features

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## Abstract

A relatively large sample ( $N = 143$ ) of men who sexually abused their biological daughters or their step/adopted daughters were examined on a comprehensive array of self-report demographic and historical information, offense characteristics, psychological and phallometric measures, and official reoffense outcome data. Biological fathers (BFs) were significantly less sexually aroused by children than were the stepfathers (SFs). On all the remaining variables, however, no statistically significant differences were found. Overall, BF and SF in the present study appear to be much more similar than different from one another.

**KEY WORDS:** incest; sex offenders; child molesters; recidivism; phallometry; psychometric testing.



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A valid distinction between incest perpetrators who are genetically related biological fathers (BFs) versus non-consanguineous step fathers (SFs) may have bearing on possible etiologies and developmental mechanisms (Haig, 1999; Sagarin, 1977; Seto, et al, 1999; Greenberg, et al, 2000a). For example, from an evolutionary perspective, compared to men who sexually abuse their stepdaughters, men who sexually abuse their biological daughters have much more to lose in terms of their inclusive genetic fitness (Haig, 1999). Whereas a man who sexually abuses his biological daughter likely reduces the probability and extent to which his genes will be carried on into future generations, a man who sexually abuses a girl who is unrelated to him, as in the case of a stepdaughter, may increase the likelihood that his genes will be carried on. In light of Haig's (1999) argument, it is not unreasonable to expect that BFs and SFs may differ in terms of motivation and the inhibitions they overcome.

Despite this axiomatic distinction, only a handful of studies have examined the differences between these two distinct offending groups. Generally, previous studies have not utilized formal comprehensive evaluations along with an array of possible sources of information. Whereas some researchers have produced evidence that BFs differ from SFs (Phelan, 1986; Sariola & Uutela, 1996), other researchers have found that BFs and SFs are quite similar to one another (Groff & Hubble, 1984; Russell, 1984; Seto et al, 1999). Most incest perpetrator studies have samples of less than 30 subjects (Williams & Finkelhor, 1990); lack basic demographic information, psychological assessment, or phallometry data (Groff & Hubble, 1984; Russell, 1984; Phelan, 1986; Gordon & Creighton, 1988; Gordon, 1989; Faller, 1989);



focus exclusively on phallometric assessment (Seto et al, 1999); or lack outcome recidivism measures (Langevin & Watson, 1991).

In the present investigation, we attempted to conduct a more thorough examination of BFs and SFs than has previously been conducted. To that end, a relatively large sample of BFs and SFs were compared on a comprehensive array of standardized self report questionnaires, psychometric tools and physiological measures, and recidivism.

## Method

### Participants

Participants were 84 BFs and 59 SFs assessed at a Sexual Behaviours Clinic (SBC) of a university teaching hospital between 1983 and 1993. All subjects were older than 18 and at least 5 years older than the victim. Both BFs and SFs had been convicted of a hands-on sexual offense against their biological daughter or step- or adopted daughter respectively. If police records indicated a subject had ever been charged with a sexual offence against an extrafamilial child, they were also excluded. The subjects were seen as part of the adjudication or sentencing process at the SBC. This study is part of a series of research articles on sex offenders using our database. More comprehensive information concerning the selection of participants, as well as the procedures and assessment tools used in the present investigation have been described in detail previously in this journal in a series of publications ( Firestone, Bradford, Greenberg et al., 1998; Firestone, Bradford, McCoy et al., 2000; Rabinowitz Greenberg, Firestone, Bradford, et al., 2002).

### Procedure

The assessment procedures at the SBC routinely included several components and are discussed in further detail elsewhere (Bradford and Greenberg, 1998; Firestone, Bradford,



Greenberg et al., 1998; Firestone, Bradford, McCoy et al., 2000; Rabinowitz Greenberg, Firestone, Bradford, et al., 2002). Typically, upon arrival at the clinic, a psychiatrist, with expertise in sex offenders, conducted a psychiatric interview. More corroborating information was generally available from police reports and witness statements. All participants' signed written informed consent forms. Demographic data collected included age, marital status, and education. Family historical features such as participants' own physical and sexual victimization and placement outside of the home prior to age 16 were collected. Data collected related to the index offense included the number of victims, victim's age, level of force used, and level of sexual intrusion. The level of force used in the index offense by the perpetrator was rated by a clinician on a ten-point scale. Points on the rating scale were 1 (no force), 2 (threat and no weapon), 3 (threat and weapon), 4 (minor injury and no weapon), 5 (minor injury and weapon), 6 (severe beating and no weapon), 7 (severe beating and weapon), 8 (potential homicide), 9 (homicide), and 10 (homicide and mutilation of body). In the present study, very few of the offenders used threats or violence and some of the points on the scale did not apply to most or all participants. Therefore, the points on the scale considered in the present study were collapsed into a dichotomous variable: no threats or force vs. threats or force (threats, use of a weapon, use of violence, or injury). The level of sexual intrusion in the index offense was rated by a clinician; in the current study, we examined whether or not the offender penetrated his victim orally, vaginally, or anally).

Psychometric measures for child molesting cognitive distortions, alcoholism, general sexual functioning, hostility and psychopathy were assessed using the Cognition (distortion) Scale (Abel, et al, 1984); the Michigan Alcohol Screening Test (Selzer et al. 1975); the Derogatis Sexual Functioning Inventory (DSFI) (Derogatis, 1978, 1980); Buss-Durkee Hostility



Inventory (Buss & Durkee, 1957); and the Psychopathy Checklist-Revised (PCL-R; Hare, 1991). Phallometric measurement of deviant sexual arousal, in response to audio/visual stimuli, were measured by means of an indium-gallium strain gauge and these data were then processed in an IBM-compatible computer for storage and printout.

The Pedophile Index (PI) was computed by dividing the highest response to the child initiates or child mutual stimulus by the highest responses to an adult consenting stimulus. The Pedophile Assault Index (PAI) was computed by dividing the highest response to an assault stimulus involving a child victim (nonphysical coercion of child, physical coercion of child, sadistic sex with child, or nonsexual assault of child) by the highest response of the child initiates or child mutual stimulus. The Rape Index (RI) was computed by dividing the response to the rape stimulus by the response to the adult consenting sex stimulus. The Assault Index (AI) was computed by dividing the response to a nonsexual assault of adult stimulus by the response to the adult consenting sex stimulus. Offenders who responded to all vignettes with less than 10% full erection were considered to be nonresponders. Phallometric indexes were not computed for nonresponders. For the PI, PAI, and the RI higher scores reflect more deviant sexual arousal.

Participants criminal offense history and recidivism was gathered from the Canadian Police Information Centre (CPIC) a national data-base of criminal arrests and convictions including INTERPOL reports from the Royal Canadian Mounted Police. CPIC records contain the individual's criminal history and include details such as the date of charge or conviction, the nature of the offense, the disposition of the incident (i.e. convicted, charges withdrawn, stay of proceedings), and the sentence/penalty imposed in cases of convictions. Recidivism was divided into three categories in a fashion similar to other recent studies (Proulx, et al, 1997). Sexual recidivism was defined to be any charge or conviction for a sexual offense, after the index



offense. Violent recidivism included any charge or conviction for nonsexual violent, or sexual offenses; and any recidivism was defined to be any charge or conviction noted in the police records. A cumulative hierarchy in which each additional category subsumes that of the previous was adopted to account for plea bargaining distortions and to allow comparison with previous recidivism research (Rice et al, 1990; Proulx, et al, 1997). In order for an offender to be considered eligible for recidivism, he must have been free to commit a crime; he could not have been incarcerated or in secure custody for reasons of mental illness. When there was evidence an offender was incarcerated but a release date was unavailable from CPIC records, or from the federal and provincial correctional systems, the CPIC record was used to estimate the first day of eligibility. This date was calculated based upon an offender having served two-thirds of his sentence (i.e. mandatory release in Canada). The offender then remained “at risk” until the date he was charged or convicted of a new offense, as indicated by the CPIC record.

All these assessment tools are described in more detail in the previous publications in this journal (Firestone, Bradford, Greenberg et al., 1998; Firestone, Bradford, McCoy et al., 2000; Rabinowitz Greenberg, Firestone, Bradford, et al., 2002)

## Results

As indicated in Table 1, the *t*-tests and chi-square analyses revealed no significant differences between BFs and SFs on age at time of assessment, education, previous sexual, violent, or total convictions, experience of sexual abuse, experience of physical abuse prior to age 16, and experience of being placed outside the home prior to age 16. It is interesting to note that, based on self-reports, approximately half of the participants had been sexually abused and/or physically abused prior to 16-years of age, and almost one-third reported being placed outside of their homes prior to 16-years of age. Although there was no difference between



groups in terms of prior charges, over a third of both groups had previously been charged with a criminal offence.

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Insert Table 1 about here

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Analyses of the index offense related variables (Table 1) revealed no significant differences between BFs and SFs in terms of the number of victims; age of victims; use of threats or force; oral, vaginal, or anal penetration; or influence of alcohol or drugs. Both groups had relatively few victims, rarely used threats or force. Over half of both groups penetrated their victims orally, vaginally, or anally. Approximately one-quarter of each group reported that they were “under the influence” at the time of the index offense.

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Insert Table 2 about here

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Comparisons of the groups on various psychological tests and phallometric indexes are presented in Table 2. With reference to psychological tests, no significant differences were found between BFs and SFs. Cognition Scale scores for both groups were not indicative of distorted cognitions regarding sexual activity with children. The DSFI scores did not differ between the groups, with average scores hovering around the 5<sup>th</sup> percentile of general sexual functioning. Mean PCL-R total, factor 1, and factor 2 scores were virtually identical in both groups.

With regards to the phallometric data, both groups showed clinically deviant arousal (scores of approximately 1 or greater) on the PI and the PAI. However, the SFs’ deviant arousal was only significantly different from the BFs’ on the PI. The percentage of offenders with a PI



score greater than 1 was not significantly different between the BFs and SFs. Comparisons of the remaining indexes and the percentage of offenders with indexes greater than 1 were statistically nonsignificant.

In calculating recidivism rates, the mean follow up period was 12.65 years ( $SD = 2.69$ ). As indicated in Table 3, BFs and SFs did not significantly differ in their likelihood to sexually, violently, or generally recidivate.

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Insert Table 3 about here

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### Discussion

The primary purpose in the present study was to compare BFs and SFs on a wide range of variables often examined in research on sexual offenders (Hanson & Bussière, 1998). It is evident that both these groups report serious problems in their own childhood (sexual and physical abuse, placed outside of the home), present problems with alcohol abuse and sexual functioning, and deviant sexual arousal (PI and PAI). Nevertheless, of all the variables considered, BFs and SFs differed statistically only in their sexual arousal to children; BFs were less aroused by sexual abuse of a child than were SFs. The groups did not differ on demographic and offence variables, substance abuse, cognitive distortions, sexual functioning, hostility, psychopathy, recidivism, or the remaining measures of deviant sexual arousal. Our findings are generally consistent with Groth and Hubble (1984) and Langevin and Watson (1991) in that BFs and SFs seem to be more similar than different.

Although this study is to date the most comprehensive comparison of genetically related BFs to non-consanguineous SFs, certain limitations should be kept in mind when interpreting our



results. First, we did not include a nonsexual offender or nonoffender comparison group, which limits inferences to BFs relative to SFs. Second, the low number of sexual recidivists in both groups renders our findings for sexual recidivism tentative. Third, the large number of statistical comparisons was made without any correction for increased family wise error, which considerably increased the likelihood of Type I error. As a result, it is possible that the difference between BFs and SFs in sexual arousal to children occurred by chance, despite the significant probability value.



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Table 1

*Demographic and Historical Variables for Biological Fathers and Stepfathers*

Variable	Biological Fathers		Stepfathers		df	t or $\chi^2$
	n	M (SD) or %	n	M (SD) or %		
Age	84	41.61 (8.14)	59	39.78 (9.45)	141	1.24
Education (years)	78	9.62 (2.75)	53	10.09 (2.61)	129	-1.04
Sexually abused <sup>a</sup>	84	40.5%	59	39.0%	1	0.03
Physically abused <sup>a</sup>	66	50.0%	40	50.0%	1	0.00
Placed outside of home prior to 16	75	33.3%	45	26.7%	1	0.59
Number of victims <sup>b</sup>	80	1.43 (0.73)	55	1.25 (0.48)	133	1.53
Victim age <sup>b</sup>	79	9.59 (3.83)	54	9.17 (3.55)	131	0.65
Penetration <sup>b</sup>	83	65.1%	58	55.2%	1	1.40
Threats/violence/injury <sup>b</sup>	78	14.1%	59	20.3%	1	0.94
Under influence of alcohol/drugs <sup>b</sup>	83	26.5%	58	32.8%	1	0.65
Any prior sex charges	84	10.7%	59	13.6%	1	0.27
Any prior violent charges	84	16.7%	59	13.6%	1	0.26
Any prior criminal charges	84	40.5%	59	37.3%	1	0.15

<sup>a</sup> Retrospectively reported childhood abuse. <sup>b</sup> Pertains to the index sexual offence.



Table 2

*Psychological and Phallometric Variables for Biological Fathers and Stepfathers*

Variable	Biological Fathers		Stepfathers		df	t or $\chi^2$
	n	M (SD) or %	n	M (SD) or %		
MAST	51	8.84 (13.74)	38	10.74 (16.03)	87	0.60
Cognition Scale	61	4.42 (0.47)	43	4.57 (0.39)	102	-1.66
DSFI	80	29.69 (11.12)	55	30.27 (11.01)	133	-0.30
BDHI	81	27.72 (11.61)	56	30.61 (12.36)	135	-1.40
PCL-R						
Total	47	19.08 (6.60)	39	19.52 (6.29)	84	-0.31
Factor 1	47	9.29 (2.95)	39	9.67 (2.55)	84	-0.63
Factor 2	47	7.38 (4.28)	39	7.19 (4.30)	84	0.20
Phallometric Indexes						
Pedophile Index (PI)	44	0.99 (0.78)	32	1.51 (1.20)	74	-2.29*
PI > 1	44	38.6%	32	50.0%	1	0.97
Pedophile Assault Index (PAI)	44	1.09 (0.82)	32	1.00 (0.90)	74	0.45
PAI > 1	44	36.4%	32	25.0%	1	1.11
Rape Index (RI)	44	0.84 (0.79)	31	0.77 (0.73)	73	0.40
RI > 1	44	27.3%	31	25.8%	1	0.02
Assault Index (AI)	44	0.48 (0.46)	31	0.45 (0.34)	73	0.36
AI > 1	44	13.6%	31	9.7%	1	0.27

\* $p < .05$ .



Table 3

*Recidivism (%) in Biological Fathers and Stepfathers*

Recidivism	Biological Fathers <sup>a</sup>	Stepfathers <sup>b</sup>	$\chi^2$
Sexual	9.5	6.8	0.34
Violent	17.9	23.7	0.74
Any	23.8	32.2	1.23

<sup>a</sup> $n = 84$ . <sup>b</sup> $n = 59$ .  $df = 1$ .

