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Men's Self-Reported Probability to Encourage Sexual Contact with Female Children  
and Adolescents: The Roles of Relatedness and Individual Differences

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Master's Thesis in Psychology

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Åbo Akademi University

2019

**ÅBO AKADEMI – FACULTY OF ARTS, PSYCHOLOGY AND THEOLOGY**

Summary of Master's Thesis

Subject: Psychology	
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Title: Men's Self-Reported Probability to Encourage Sexual Contact with Female Children and Adolescents: The Roles of Relatedness and Individual Differences	
Supervisor: Jan Antfolk	
<p>Abstract: Child sexual abuse (CSA) is a serious problem with longstanding negative effects on the abused. Previous research suggests that pedophilic interest and antisocial traits are common motivational factors used to explain extra-familial child sexual abuse (CSA-E). However, these factors are not reliable predictors when it comes to intrafamilial CSA (CSA-I). The aim of this study was to gain a better understanding of factors affecting men's probability to sexually abuse children and adolescents while differentiating between biological fathers, uncles, and non-biological fathers in a population-based sample. In our sample of 405 heterosexual men, we found that the probability of CSA increases with the age of the child, but only in unrelated children, and that the risk for CSA is higher for distantly related kin compared to close biological relations. This is in line with theories of inbreeding avoidance mechanisms in evolutionary psychology. We also found that situational arousal is strongly correlated with men's probability to sexually abuse children for both related and unrelated children. Regarding individual characteristics we found cognitive distortions and low empathy to be general risk factors not associated with specific ages or relationship types. Taken together these findings suggest that arousal but not atypical sexual interest nor individual factors explain both CSA-E and CSA-I.</p>	
<i>Keywords:</i> men's sexual preferences, incest, CSA, inbreeding avoidance	
Date: 18.02.2019	Number of pages: 39

Ämne: Psykologi	
Författare: Anna Albrecht	
Arbetets titel: Mäns Självrapporterade Benägenhet att Uppmuntra Sexuell Kontakt med Kvinnliga Barn och Ungdomar: Betydelsen av Släktskap och Individuella Faktorer	
Handledare: Jan Antfolk	
<p>Sammanfattning: Sexuella utnyttjanden av barn (SUB) är ett seriöst problem med långvarig negativ påverkan på den misshandlade. Tidigare forskning tyder på att pedofilt intresse och antisociala särdrag är huvudsakliga motiverande faktorer som använts för att förklara SUB utanför familjen. Däremot förutser inte dessa faktorer sexuell misshandel av barn som sker inom familjen. Syftet med studien var att skapa en bättre förståelse för de faktorer som påverkar mäns benägenhet till SUB samtidigt som vi skiljde på biologiska fäder, far- och morbröder samt icke-biologiska fäder i ett populationsurval. I vår studie på 405 heterosexuella män kom vi fram till att risken för SUB ökar med barnets ålder men bara om barnet inte är biologiskt släkt till männen och att risken för SUB är högre för barn som inte är släkt men männen. Det här stämmer överens med evolutionspsykologiska teorier om mekanismer för att undvika inavel. Våra resultat indikerar även att situationsbunden upphetsning är starkt korrelerad med mäns benägenhet att sexuellt misshandla både barn som är och inte är släkt med männen. Gällande individuella faktorer tyder våra resultat på att brist på empati och kognitiva förvrängningar är allmänna riskfaktorer som inte är associerade med en specifik ålder eller relationstyp. Sammanfattningsvis tyder resultaten på att det är situationsbunden upphetsning och inte avvikande sexuell intresse eller individuella faktorer som kan förklara sexuell misshandel av barn både inom och utanför familjen.</p>	
<i>Nyckelord:</i> incest, sexuell utnyttjning av barn, mäns sexuella preferenser	
Datum: 18.02.2019	Sidoantal: 39

## Acknowledgements

I want to thank my supervisor Jan Antfolk for his patience and support during all the years it took to finish this project. I am grateful for all that you have taught me about evolutionary psychology and psychological research as well as your guidance throughout this process.

In addition, I would like to thank Pekka Santtila for his leadership, involvement and many fine thoughts in the project. Also, a big thank you to the people in the MikaDo-project, including Emilia Bergen and Kati Alanko, for making this study possible in the first place. And a thank you to Debra Lieberman for many interesting discussions on altruism, incest and general human behavior.

I would also like to express my gratitude to my former fellow research assistant Christopher Harju for working by my side and helping us finish the population-based survey. Your overall enthusiasm and wish to improve things as well as all the ideas regarding the execution of the survey were very valuable.

Finally, I would like to thank my family and friends for their love, support and never-ending faith in my ability to finish this thesis. My father, who was keen to help although we disagreed on most parts. Your help in organizing the structure and clarifying my thoughts is much appreciated. And my spouse Jyri, who stood by me the whole time and dived courageously into the foreign world of child sexual abuse theories, just to be of more help. You are extraordinary and managed to make even the bad times feel less worse, so thank you for it all. And lastly, thank you to my children. Having you in my life made finding time and energy to work on this thesis difficult at times, but your presence helped give meaning to the process and a much-needed push to finish.

Espoo, 2019

Anna Albrecht

TABLE OF CONTENTS

Abstract

Acknowledgements

Glossary

1 INTRODUCTION .....	1
1.1 Conceptual Models of Extra- and Intra-Familial Child Sexual Abuse.....	1
1.2 Atypical Sexual Interest and Sexual Arousal .....	2
1.3 Personality and Individual Differences .....	3
1.3.1 Antisocial personality and empathy.....	3
1.3.2 Cognitions and beliefs .....	4
1.3.3 Substance abuse .....	4
1.3.4 Experiences of child abuse .....	5
1.4 An Evolutionary Model of Intra-familial Child Sexual Abuse .....	6
1.5 The Present Study.....	7
2 METHOD.....	8
2.1 Respondents.....	8
2.2 Ethical Permission .....	8
2.3 Measures.....	8
2.3.1 Age groups.....	8
2.3.2 Self-perceived response to possible sexual invitation .....	9
2.3.3 Measures of individual differences.....	9
2.4 Procedure.....	11
2.5 Statistical Analyses.....	11
2.5.1 Preliminary analyses .....	11
3 RESULTS .....	12
3.1 Relationship Types, Age Groups, and Men’s Self-Reported Probability to Encourage Sexual Contact.....	12
3.2 Arousal, Age Preferences, and Sex Drive .....	13
3.3 Personality Traits, Rape Attitudes, Experiences of Sexual Abuse, and Alcohol Use.....	14
4 DISCUSSION .....	16
4.1 Encouraging Sexual Contact as a Function of Female Age and Relationship Type.....	16

4.2 Arousability, Age Preferences, and Sexual Desire.....	17
4.3 Personality Traits, Rape Attitudes, Experiences of Sexual Abuse, and Alcohol Use.....	18
4.4 Strengths and Limitations of the Current Study.....	19
4.5 Conclusion and Implications for Further Research.....	20
REFERENCES.....	22
SWEDISH SUMMARY – SVENSK SAMMANFATTNING.....	31

## **Glossary**

Child sexual abuse (CSA): “Child sexual abuse is the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violates the laws or social taboos of society. Child sexual abuse is evidenced by this activity between a child and an adult or another child who by age or development is in a relationship of responsibility, trust or power, the activity being intended to gratify or satisfy the needs of the other person.” Definition of CSA by WHO Consultation on Child Abuse Prevention 1999.

Extra-familial child sexual abuse (CSA-E): Child sexual abuse where the perpetrator neither has a biological relation nor step-relation to the child.

Inbreeding avoidance: Tendency to avoid inbreeding due to the detrimental effects to potential offspring.

Intra-familial child sexual abuse (CSA-I): Child sexual abuse where the perpetrator either has a biological relation or step-relation to the child.

Person of Interest: A person with a relationship with the respondent. Coded as biological daughter, non-biological daughter, niece or friend’s daughter.

## Men's Self-Reported Probability to Encourage Sexual Contact with Female Children and Adolescents: The Roles of Relatedness and Individual Differences

According to a comprehensive meta-analysis, child sexual abuse (CSA) has an estimated global prevalence of 12.7% (Stoltenborgh, van Ijzendoorn, Euser, & Bakermans-Kranenburg, 2011). Experiences of CSA are associated with several forms of later psychopathology and health issues (e.g. Bradley, Binder, & Epstein, 2008; Jewkes, Dunkle, Nduna, Jama, & Puren, 2010; Rehan, Antfolk, Johansson, & Santtila, 2016). Because of this, CSA is a major concern for society, and great efforts have been made to prevent CSA and provide the best possible treatment of victims and perpetrators. To improve prevention strategies and design more effective treatment programs for both victims and perpetrators, a better understanding of the risk factors associated with CSA is of paramount importance. This is especially true for CSA that occurs within the family, that is, intra-familial CSA (CSA-I) as CSA-I has more detrimental effects for the victim (Magalhães et al., 2009; Ventus, Antfolk, & Salo, 2017) compared to extra-familial CSA (CSA-E).

### **Conceptual Models of Extra- and Intra-Familial Child Sexual Abuse**

Some conceptual models have been suggested to explain CSA. According to Finkelhor's (1986) model, a potential perpetrator firstly needs motivation to commit the sexual offence, such as feeling sexually aroused by the child. Even in the case of motivation, abuse will not occur if effective inhibitors are in place. Inhibitors can be both internal (e.g., fear of consequences) and external (e.g., the presence of other adults that can intervene). Finally, the potential perpetrator needs to overcome possible resistance by the child (e.g., by using threats) to carry out an abusive act. More recently, Seto, Babchishin, Pullman, and McPhail (2015) presented the motivation-facilitator model to explain adult male sexual offending. In this model, atypical sexual interest serves as the main motivational factor for CSA, while distorted cognitions and certain personality aspects, such as anti-social personality traits, represent facilitators of sexual offending against children. The main difference between the two models is that the first focuses on motivation and inhibiting factors, whereas the latter focuses on motivation and facilitating factors. These models—and models similar to them—and the risk- and protective factors subsumed under them focus largely on explaining CSA-E. On the other hand CSA-I is somewhat



overlooked, and better models that account for the differences between these two forms of sexual abuse are needed (Rice & Harris, 2002; Tews, 2013).

Most convicted perpetrators of CSA are male, and, in the majority of cases, the victim is a female known to the perpetrator (Seto, 2008). One third of offenders are related to their victim (Ogrodnik, 2010), with uncles, grandfathers, siblings, and cousins being more common perpetrators compared to biological and non-biological fathers (Fanslow, Robinson, Crengle, & Perese, 2007). Not only is CSA-I less prevalent than CSA-E, there is an increasing amount of evidence showing that they differ both in terms of sequelae, abuse characteristics, and risk-factors. With respect to harmful sequelae, CSA-I is known to be associated with more psychological suffering for the victim compared to CSA-E (e.g., Magalhães et al., 2009). Concerning abuse characteristics, the victim age of onset is lower for CSA-I than CSA-E, and CSA-I lasts for longer periods of time (e.g., Seto, Babchishin, Pullman, & McPhail, 2015; Ventus, Antfolk, & Salo, 2017). Considering that CSA-I differs from CSA-E in several aspects, motivational, inhibiting, and facilitating factors might differ greatly between CSA-E and CSA-I (e.g., Black, Heyman, & Smith Slep, 2001).

### **Atypical Sexual Interest and Sexual Arousal**

The prime motivational factor in CSA is atypical sexual interest, particularly pedophilia, which can be defined as a persistent sexual interest in pre-pubertal children (Miller, 2013). Indeed, two meta-analyses have shown that sexual interest in children is the strongest predictive risk-factor for recidivism in child sex offenders (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005). Seto (2008) estimated that around half of all child sex offenders have a persistent sexual interest in children or adolescents. With respect to age, it is known that most men display a strong sexual interest in women in their 20's (Antfolk et al., 2015; Kenrick & Keefe, 1992), but few adult men report an interest in adolescents and children (Santtila et al., 2015). In light of this, it is not surprising that the risk of CSA increases with the age of the child (Bergen, Antfolk, Jern, Alanko, & Santtila, 2013). Ventus et al. (2017) found, however, that victims of CSA-I tend to be younger than victims of CSA-E. The authors suggested this might be due to detrimental effects of inbreeding and that the risk for conception increases with age and so the victims tend to be pre-pubertal. Yet, intra-familial child sex offenders are less likely to have pedophilic sexual interest (Seto, 2008; Seto et al., 2015) and show less or equal sexual arousal to

children compared to extra-familial offenders (Freund, Watson, & Dickey, 1991; Marshall, Barbaree, & Christophe, 1986; Rice & Harris, 2002; Seto, Lalumière, & Kuban, 1999).

Sexual arousal is known to reduce inhibitory control, affect sexual decision making (Ariely & Loewenstein, 2006), decrease the comprehension of a potential victim's situation (Ward, Hudson, & Marshall, 1996), and to increase sexually aggressive behavior (Loewenstein, Nagin, & Paternoster, 1997). Ariely and Loewenstein (2006) have also showed that men perceive themselves more likely to have sex with a 12-year old girl when sexually aroused compared to when they are not sexually aroused. Santtila and colleagues (2015) found that men sexually interested in children aged 15 or younger also report more overall sexual desire compared to other men. In a meta-analysis, Pullman et al. (2017) found that, among CSA-I offenders, offenders lacking a biological relationship with the victim (i.e., step-fathers) had more sexual regulation problems than offenders biologically related to the victim. The authors concluded that non-biological CSA-I offenders may be more likely to act on sexual urges than biological CSA-I offenders.

### **Personality and Individual Differences**

Several original studies and systematic reviews have compared different facilitating factors across different types of CSA. A recent meta-analysis compared offenders with extra-familial and intra-familial CSA offenses for psychopathology, distorted attitudes and beliefs, childhood abuse, as well as interpersonal deficits (Seto et al., 2015). Others have investigated the role of alcohol (e.g. Pullman et al., 2017; Seto & Barbaree, 1995) and empathy (e.g. Marshall, Hudson, Jones, & Fernandez, 1995; Ward, Keenan, & Hudson, 2000; Whitaker et al., 2008) in different types of CSA and in sexual offending in general.

**Antisocial personality and empathy.** Because anti-social personality traits are associated with criminal offending in general, CSA can partly be explained as a general tendency for crime (Hanson & Morton-Bourgon, 2005). Indeed, intra-familial child sex offenders display less anti-sociality than extra-familial child sex offenders (Beggs & Grace, 2008; Rice & Harris, 2002; Seto & Barbaree, 1999). Some studies have, however, arrived at the opposite conclusion (Jabbour, 2007; Porter et al., 2000). Although not statistically significant, Pullman et al. (2017) found that, among intra-familial child sex offenders, biologically unrelated offenders to display higher levels of antisocial traits compared to biologically related offenders.

Thus, anti-social personality traits are expected to be more strongly associated to CSA-E than CSA-I.

Several studies have found child sex offenders to have deficits in empathy (Fernandez, Marshall, Lightbody, & O'Sullivan, 1999; Ward et al., 1996; Whitaker et al., 2008). Extra-familial child sex offenders have been found to have lower victim empathy and greater hostility towards women than intra-familial child sex offenders (Seto et al., 2015). Extra-familial offenders are, however, more likely to emotionally identify with children and have higher emotional congruence with children compared to intra-familial child sex offenders (Mcphail, Hermann, & Nunes, 2013; Seto et al., 2015). Marshall and colleagues (1995) suggested that the decreased empathy in extra-familial offenders might reflect cognitive dissonance (i.e. avoiding negative self-conception by changing the perception of the victim or occurred abuse), whereas low emotional congruence in intra-familial child sex offenders might be a sign of emotional or social immaturity. Based on this, deficits in empathy are expected to be more strongly related to CSA-E compared to CSA-I.

**Cognitions and beliefs.** Cognitive factors, such as maladaptive beliefs and distorted thinking, have been recognized as an important risk factor for sexual offending against children (Seto et al., 2015; Whitaker et al., 2008). It is, however, unknown whether cognitive distortions are a prerequisite for CSA or used as a coping strategy for the perpetrator to maintain self-esteem (Burn & Brown, 2006). Ward (2000) pointed out that cognitive distortions might differ between child sex offenders: Some might view a friendly smile by a child as seductive, whereas other offenders might assume they are entitled to have sex with anyone they want to. Offense-supporting attitudes and beliefs can also be viewed as antisocial traits. In accordance with this, extra-familial child sex offenders exhibit stronger denial and minimization of sexual offense compared to intra-familial child sex offenders (Seto et al., 2015). Cognitive distortions are thus expected to be more present in CSA-E than in CSA-I.

**Substance abuse.** Seto and Barbaree (1995) have suggested that alcohol use is a risk factor for sexual aggression. Alcohol impairs cognitive functions, reduces planning and inhibition abilities (Curtin & Fairchild, 2003), reduces sexual disinhibitions, and increases sexual desire as well as sexual risk-taking (Chaney, Vail-Smith, Martin, & Cremeens-Matthews, 2016; Cooper, 2006; Kilwein & Looby, 2018). Overall, substance abuse is considered delinquent behavior and linked to

antisocial traits and is thus expected to be more prevalent in cases of CSA-E. However, Seto et al. (2015) did not find a significant difference in drug or alcohol use when comparing intrafamilial and extrafamilial offenders in their review article. However, the articles used in the review seldom differentiated between biological and non-biological fathers. Pullman et al. (2017) found that biological fathers were more likely to have issues with substance abuse than non-biological fathers, whereas other offenders with a biological relationship to their victim (e.g., uncles) had least substance abuse problems. Thus, substance abuse is expected to be as likely in CSA-E as in CSA-I and biological fathers more likely to suffer from substance abuse problems than non-biological fathers followed by uncles.

**Experiences of child abuse.** Other studies have investigated the association between adverse developmental experiences, for example childhood sexual abuse, and the likelihood of abusing children (e.g., Nunes, Hermann, Renee Malcom, & Lavoie, 2013). In a meta-analysis of adult sex offenders, Jespersen, Lalumière, and Seto (2009) found that sex offenders with child victims were more likely to have been sexually abused as children compared to sex offenders with adult victims. Child sex offenders have also been shown to be more likely than non-sex offenders to have been sexually abused (Whitaker et al., 2008). Comparing CSA-E offenders to CSA-I offenders, Seto et al. (2015) found that intra-familial child sex offenders were more likely than extra-familial child sex offenders to have experienced childhood sexual abuse. There was no difference in experiences of sexual abuse and childhood problems between biological and non-biological fathers as intra-familial child sex offenders (Pullman et al., 2017). Thus, a history of childhood sexual abuse is expected to be more likely present in CSA-I offenders compared to CSA-E offenders.

In conclusion, antisocial traits are more pronounced in CSA-E than CSA-I, with uncles seeming to have more antisocial traits than non-biological fathers, and with biological fathers exhibiting the least antisocial traits. The same pattern applies to empathy, cognitive dissociation, and rape attitudes. Likewise, alcohol abuse is expected to be more common in CSA-E than in CSA-I but with biological fathers more prone to substance abuse than non-biological fathers followed by uncles. Experiences in early childhood abuse is on the contrary more often found in CSA-I than CSA-E. Previous research about childhood sexual abuse has not differentiated between different types of CSA-I.

### **An Evolutionary Model of Intra-familial Child Sexual Abuse**

Approaching CSA from an evolutionary perspective can shed more light on CSA-E and CSA-I as different phenomena. The evolutionary model of CSA-I is based on the current understanding of human inbreeding avoidance (e.g., the various mechanisms that decreases inbreeding between close family members; e.g., Antfolk, 2014). Inbreeding is known to have strong negative consequences on reproductive fitness, as offspring of closely related individuals suffer increased mortality and have more severe physical defects (e.g., Bittles & Neel, 1994; Charlesworth & Charlesworth, 1987; Seemanova, 1971). Due to these negative effects, humans—as well as many other animal species—have adapted psychological mechanisms that decreases sexual interest in closely related individuals (Lieberman & Antfolk, 2015).

Because the likelihood of negative biological consequences depends on the degree of biological relatedness between two individuals, this psychological system is expected to differentiate between different kin. Indeed, it has been shown that the thought of sex between full-siblings is more aversive than the thought of sex between half-siblings, followed by the thought of sex between cousins (Antfolk et al., 2018; Antfolk, Lieberman, & Santtila, 2012; Lespiau & Kaminski, 2016). Sex between biological family members is also found more aversive than sex between non-biological family members (Antfolk, Karlsson, Bäckström, & Santtila, 2012; Kresanov et al., 2018). Following this, distantly related kin are expected to be more prone to CSA-I than closely related kin, and biological kin less prone to CSA-I than non-biological family members. Indeed, a study by Sariola and Uutela (1996) reported that 1.4% of 15-year old girls had experienced unwanted sexual contact with a family member. A total of 0.2% of the girls in the survey reported being sexually abused by their purported biological father, while abuse by a stepfather was more than 15 times more common.

Because the purpose of inbreeding avoidance system is to regulate reproduction, we expect that sexual maturity of a close biological family member is not associated with increased sexual interest. In other words, while men's sexual interest increases as a function of females' sexual maturity, this is only true for unrelated females. For related females, an intact inbreeding aversion system should, in particular, protect against sexual interest in female of a reproductive age. Indeed, some prior studies suggest that female's incest avoidance mechanisms are sensitive to variations in the likelihood of conception (Antfolk, Lieberman, Albrecht, &

Santtila, 2014; Fessler & Navarrete, 2003; Lieberman, Pillsworth, & Haselton, 2011) and that victims of CSA-I tend to be pre-pubertal and younger than victims of CSA-E and that the abuse discontinues as the risk of conception increases with age (Ventus et al., 2017).

### **The Present Study**

The aim of this study was to investigate men's self-reported probability to encourage sexual contact with actual child and adolescent females. In doing this we considered the relatedness between the men and the females, the age of the females, and a number of individual factors shown to be associated with CSA. In investigating risk- and protective factors of CSA, very few studies have differentiated between different types of CSA-I, such as comparing fathers, uncles, and non-biological fathers (Pullman et al., 2017; Rice & Harris, 2002; Seto et al., 2015). In the current study we compared these three types of relationships to investigate differences in how various factors are associated with men's self-reported probability to encourage sexual contact with actual child and adolescent females. To the best of our knowledge this is the first study to compare the propensity for CSA-E and CSA-I while differentiating between the degree of relatedness of a possible perpetrator and victim in a population-based sample.

Based on the reviewed literature, we made the following predictions:

1. Men's self-reported probability to encourage sexual contact with actual child and adolescent females is lower for related, compared to unrelated females.
2. Men's self-reported probability to encourage sexual contact with actual child and adolescent females increases with the age of the child, but only for unrelated females.
3. Arousal and sexual interest in children is expected to have a stronger explanatory value in predicting the likelihood of CSA-E and non-biological daughters compared to biologically related female children and adolescents.
4. Individual difference characteristics (i.e., anti-sociality, empathy, cognitive distortions, substance abuse and childhood sexual abuse) have a stronger explanatory value in predicting the likelihood of CSA-E than CSA-I. The exception from this is experiences of childhood sexual abuse, for which a reversed pattern was expected, and substance abuse for which biological

fathers were expected to be more prone to substance abuse than non-biological fathers and uncles.

## Method

### Respondents

We obtained data from a population-based survey of Finns (The Finn-Kin Study; Albrecht et al., 2014). From this data set, we selected 405 heterosexual men aged 18-56 years ( $M = 39.98$ ,  $SD = 6.54$ ). We included respondents with biological and/or non-biological female children to allow us to look at the effect of relatedness in CSA. The respondents were therefore selected on the grounds of having either a biological daughter, a niece, a non-biological daughter, a friend's daughter, or any combination of these. Each respondent had between 1 and 4 relationships of interest, adding up to 1012 relationships of interest.

The sample was a randomized population-based sample with respondents' addresses obtained through the Population Registry of Finland. An invitation letter was then sent to each responded. It included an address to the web-based survey as well as description of the study. Participation in the Finn-Kin study was both anonymous and voluntary, and all respondents gave their informed consent before taking part in the survey. As compensation, the respondents had the option of partaking in a lottery with the chance of winning a 1000€ or 500€ gift voucher of their choice.

### Ethical Permission

The Finn-Kin study was approved by the Ethics Committee at the Department of Psychology and Logopedics at Abo Akademi University in 2012.

### Measures

**Age groups.** We categorized the relationships of interest (hereafter, person) into three age groups: Children (ages 0 to 12), adolescents (ages 13 to 17), and adults (ages 18 or older). Number of observations, mean age and standard deviations for each of the four person types per age group are presented in Table 1.

Table 1

*Sample Sizes and Mean Age of Persons of Interest by Person Type and Age Group*

Person of interest	Children			Adolescents			Adults		
	<i>n</i>	Age ( <i>M</i> )	( <i>SD</i> )	<i>n</i>	Age ( <i>M</i> )	( <i>SD</i> )	<i>n</i>	Age ( <i>M</i> )	( <i>SD</i> )
Biological daughter	280	6.52	3.56	85	14.93	1.50	78	20.97	2.23
Niece	130	5.93	3.35	45	14.71	1.56	77	23.34	4.50
Non-biological daughter	9	7.89	2.42	11	15.09	1.22	11	23.36	5.16
Daughter of a friend	224	6.63	3.47	70	15.14	1.32	69	21.68	4.01
Total	643	6.46	3.48	211	14.96	1.44	235	22.07	3.88

*Note.* Included 1089 persons of interest which was reduced to 1012 due to non-response in the results section. One-way ANOVAs within each age grouped showed that adult nieces than adult biological daughters ( $p < .001$ ) and adult daughters of friends ( $p < .05$ ),  $F(3, 231) = 5.76$ ,  $p < .001$ . No other statistically significant differences were found.

**Self-perceived response to possible sexual invitation.** To measure self-perceived likelihood of continued sexual contact with a person, we created four different scenarios. Each scenario describes a situation where the person of interest behaves in a perceivably sexually inviting manner. All respondents read and responded to between one and four scenarios, depending on their number of persons of interest. To control for order effects, we randomized the order of the scenarios for each respondent. Each person of interest was then randomly assigned to one scenario. The setting for the scenarios was a beach, a sofa, a hot tub and a hotel room. An example of a scenario:

“Imagine that you and [name of the person] are in your house on a Friday evening watching a movie next to each other on the sofa. You are sharing a bowl of popcorn. You see [name of the person] reaching for the popcorn bowl in your lap. Suddenly you feel [name of the person] touching your genitals.”

After reading each scenario, respondents answered the questions “How likely would you encourage [name of the person] to continue touching you in a similar situation?” and “How aroused would you become in a similar situation?”. Response scales ranged from 0 (*not at all*) to 100 (*very likely*) and 0 (*not at all*) to 100 (*very aroused*), respectively. The responses were coded as arousability and estimated probability of encouraging sexual contact.

**Measures of individual differences.** For all scales, range, mean, and measures of reliability are presented in Table 2. To measure sexual age preferences, we asked respondents to report the lowest imaginable age of a person they could



consider themselves having sex with. The age was given as a number between 0 and 100.

Table 2

*Range, Mean, and Reliability for the Individual Measures Used in the Present Study*

Scale	Construct	Range	<i>M</i>	<i>SD</i>	No. of items	$\alpha$
	Age preference <sup>a</sup>	0-100	21.95	5.82	1	
SDI	Sexual desire	0-100	56.94	16.39	4	.73
SRP-III	Psychopathy	1-5	2.15	.60	12	.75
IRI	Empathy	0-100	60.35	14.30	6	.62
IRMA	Rape myth acceptance	1-5	1.62	.64	4	.69
AUDIT	Alcohol use	0-4	1.46	.81	3	.53
CTQ	Sexual abuse <sup>a</sup>	1-5	1.07	.34	1	

*Note.* SDI, Sexual Desire Inventory; SRP-III, Self-Report Psychopathy Test III; IRI, Interpersonal Reactivity Index; IRMA, Illinois Rape Myth Acceptance Scale; AUDIT, Alcohol Use Disorders Identification Test;

CTQ, Childhood Trauma Questionnaire.

<sup>a</sup>Reliability not available due to only one item used in the scale.

To measure sexual desire, we used the Sexual Desire Inventory (SDI, Spector, Carey, & Steinberg, 1996). The SDI is a reliable self-administered questionnaire intended to measure sexual desire. The two items loading highest on the factor measuring sexual desire with a partner and the factor measuring solitary sexual desire were included in this study.

To measure antisocial traits, we used the Self-Report-Psychopathy Test-II (SRP-III; Paulhus, Neumann, & Hare, 2015). We used the three highest loading items for from the four-factor solution. The SRP-III has been shown to have good validity and reliability ( $\alpha = .86$ ) in non-clinical and non-forensic samples (Mahmut, Menictas, Stevenson, & Homewood, 2011).

To measure individual differences in empathy, we used the Interpersonal Reactivity Index (IRI, Davis, 1980, 1983). The IRI is a 28-item self-report questionnaire that correlates well with other empathy measures and scales measuring emotionality and sensitivity to others (Davis, 1983).

To measure attitudes and beliefs about rape, we used the Illinois Rape Myth Acceptance Scale (IRMA; McMahon & Farmer, 2011). The construct validity and reliability of the scale is considered good and the scale has been used in both basic and applied research (e.g. Bohner & Lampridis, 2004).

To measure problematic alcohol use, we used the Alcohol Disorders Identification Test (AUDIT; Durbeej et al., 2010). The psychometric properties of abbreviated versions are considered as satisfactory as the original 10-item AUDIT version (Meneses-Gaya et al., 2010).

To measure experiences of sexual abuse, we used the item with the highest factor loading on the sexual abuse subscale in the Childhood Trauma Questionnaire short form (CTQ-SF). The CTQ-SF is a 28 item retrospective self-report inventory that can be used to provide reliable and valid information about traumatic childhood conditions (Bernstein et al., 2003).

### **Procedure**

All data were collected with the survey-based Finn-Kin study of which more details can be found in Albrecht et al. (2014). In the survey, respondents were first asked to provide background information such as age and the number of female biological, non-biological children and nieces. Respondents were also asked to think of a male friend with a daughter. Secondly, the name and age of each person of interest was gathered. In case respondents reported having more than one person of interest of a certain type, e.g. biological daughter, the one closest to the respondent in age was chosen. To facilitate the respondents' ability to imagine being with a person in the described scenarios the names of the persons of interest were asked and later used in a scenario description. The names were not saved in the data file to guarantee anonymity.

### **Statistical Analyses**

We used the statistical program SPSS 22.0 (Version 24.0, IBM Corp., 2016) for all statistical analyses. Generalized Estimating Equations (GEE) was used in all analyses as the GEE accounts for correlated responses within the individual and can be used to measure level-differences of the effect of factorial independent variables in mixed-designs (Hardin & Hilbe, 2003). Furthermore, GEE can be used to approximate likelihood on a population level (Hanley, Negassa, Edwardes, & Forrester, 2003) which suited our need to assess a population-based sample. Significant interactions were further analyzed using simple bivariate correlations.

**Preliminary analyses.** A MANOVA showed that the associations between the probability of encouraging sexual contact, arousability, age,  $F(4, 1012) = 2.48, p < .05$ , Wilk's  $\Lambda = .99$ , and relationship type,  $F(6, 1012) = 11.55, p < .00$ , Wilk's  $\Lambda = .93$ , differed significantly. Because of this, we treated arousability and probability of

encouraging sexual contact, age and relationship types as separate in subsequent analyses.

## Results

### Relationship Types, Age Groups, and Men’s Self-Reported Probability to Encourage Sexual Contact

We first investigated the associations between men’s self-reported probability to encourage sexual contact with female by relationship type and female age. This was done as a full factorial model with the predictors relationship type and female age and men’s responses as the dependent variable. There was a statistically significant association for relationship type and for female age, and a statistically significant interaction (see Table 3).

Table 3

*Tests for Relationship Type, Age group and Men’s Self-Reported Probability to Encourage Sexual Contact*

Predictor	Type III tests		
	Wald $\chi^2$	<i>df</i>	<i>P</i>
Intercept	25.96	1	< .001
Relationship Type	27.31	3	< .001
Age Group	6.20	2	.045
Relationship Type by Age Group	15.61	6	.016

*Note.* Based on 1012 observations clustered within 405 respondents.

A pairwise comparison between the levels of relationship type showed that men reported lower probability to encourage sexual contact with biological daughters than with nieces ( $p = .025$ ) and friends’ daughters ( $p < .001$ ). The difference between biological daughters and non-biological daughters was not statistically significant ( $p = .678$ ). Neither was the difference between non-biological daughters and nieces ( $p = .774$ ). The differences between friends’ daughters and all other groups were all statistically significant ( $p < .001$ ,  $p < .001$ , and  $p = .037$ , respectively). A pairwise comparison between the levels of age groups showed that men reported a lower probability to encourage sexual contact with both children and adolescents compared to adults ( $p = .013$ , and  $p = .028$ , respectively). The difference between children and

adolescents was not statistically significant ( $p = .409$ ). Concerning the interaction, pairwise comparisons within each level of relationship type showed that there were no statistically significant differences between age groups for biological daughters, nieces or non-biological daughters. For friends' daughters, the probability to encourage sexual contact was significantly higher for adults compared to children and adolescents ( $p < .001$ , and  $p = .029$ , respectively). (See Figure 1).

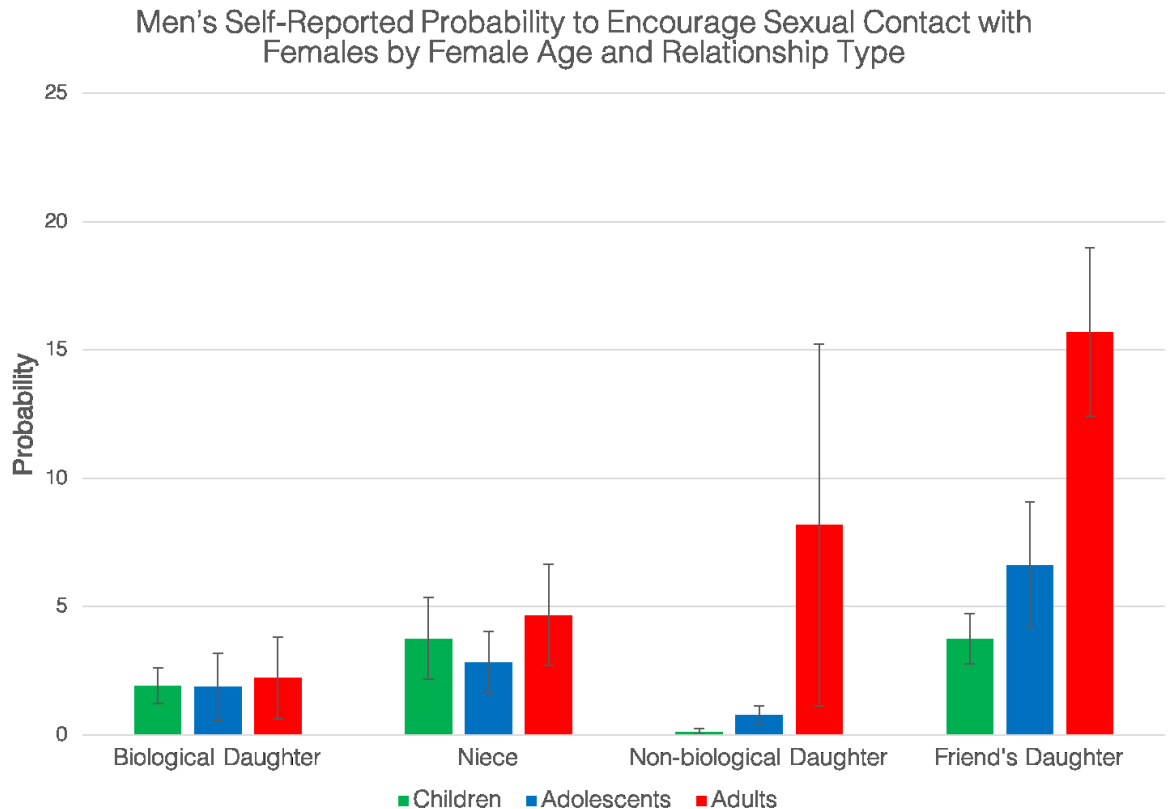


Figure 1. Men's self-reported probability of encouraging sexual contact with females by female age and relationship type. Higher values indicate a higher self-reported probability. Error bars represent standard errors of the point estimates.

### Arousal, Age Preferences, and Sex Drive

Next, we investigated the associations between arousal, age preferences, and sex drive and men's self-reported probability to encourage sexual contact with females. Again, we also considered the different relationship types and age groups. A GEE-model with arousability as a continuous predictor, age group and relationship type as factors, and men's self-reported probability to encourage sexual contact as the outcome variable revealed a statistically significant positive association,  $B = .69$ ,  $SE$

= 0.08, Wald  $\chi^2$  [1] = 178.45,  $p < .001$ . There was a significant two-way interaction with age group, Wald  $\chi^2$  [2] = 7.71,  $p = .021$ , but not with relationship type, Wald  $\chi^2$  [3] = 6.87,  $p = .076$ . There was also a statistically significant three-way interaction, Wald  $\chi^2$  [6] = 114.57,  $p < .001$ . To further investigate the three-way interaction of arousal, age group and relationship type, we compared the correlation coefficients between arousal and men's self-reported probability to encourage sexual contact for a combination of relationship type and age group. The correlation coefficients ranged from  $r = .75$  to  $r = .99$ , with non-biological daughter being the only exception,  $r = .05$ . This observation was, however, based only on 8 observations. In sum, the probability to encourage sexual contact with females was strongly associated with arousability. The level of arousability for age groups varied depending on relationship type so that it was strongly correlated in all relationship types except for non-biological daughters.

For age preferences, we found no direct linear association with men's self-reported probability to encourage sexual contact females,  $B = -.97$ ,  $SE = 0.37$ , Wald  $\chi^2$  [1] = 1.85,  $p = .174$ . Also, we found no statistically significant two- or three-way interactions, Wald  $\chi^2$  [2] = 1.85,  $p = .174$ , Wald  $\chi^2$  [3] = 4.45,  $p = .216$ , and Wald  $\chi^2$  [6] = 9.35,  $p = .155$ , respectively.

For sex drive, a similar GEE model revealed that sex drive did not show a direct linear relationship with men's self-reported probability to encourage sexual contact with females,  $B = .39$ ,  $SE = 0.16$ , Wald  $\chi^2$  [1] = 0.00,  $p = .996$ . There were no statistically significant two-way interactions, Wald  $\chi^2$  [2] = 0.16,  $p = .923$  and Wald  $\chi^2$  [3] = 5.12,  $p = .163$  for age group and relationship type, respectively, or three-way interaction, Wald  $\chi^2$  [6] = 4.31,  $p = .635$ .

In conclusion, age preferences and sex drive were not significantly associated with the probability to encourage sexual contact. Arousability, on the other hand, was strongly correlated with the probability to encourage sexual contact for all age groups and relationship types with the exception of non-biological daughters.

### **Personality Traits, Rape Attitudes, Experiences of Sexual Abuse, and Alcohol Use**

Finally, we investigated the associations between personality traits (anti-social personality traits and empathy), experiences of child sexual abuse, alcohol use and men's self-reported probability to encourage sexual contact with females. A GEE-model with antisocial traits as a continuous predictor, age group and

relationship type as factors, and men's self-reported probability to encourage sexual contact as the outcome variable did not show a direct linear relationship,  $B = 10.26$ ,  $SE = 4.97$ , Wald  $\chi^2 [1] = 2.58$ ,  $p = .108$ . There were no statistically significant two-way interactions, Wald  $\chi^2 [2] = 5.47$ ,  $p = .065$  and Wald  $\chi^2 [3] = 5.05$ ,  $p = .168$  for age group and relationship type, nor a three-way interaction, Wald  $\chi^2 [6] = 8.50$ ,  $p = .204$ . Therefore, antisocial traits were not associated with the probability to encourage sexual contact.

For empathy, a similar GEE model revealed a statistically significant positive association,  $B = -.20$ ,  $SE = 0.23$ , Wald  $\chi^2 [1] = 4.42$ ,  $p = .004$ . We found no statistically significant two- or three-way interactions, Wald  $\chi^2 [2] = 2.82$ ,  $p = .243$ , Wald  $\chi^2 [3] = 2.41$ ,  $p = .492$ , and Wald  $\chi^2 [6] = 3.50$ ,  $p = .744$ , respectively. As expected, lower empathy was associated with a higher probability to encourage sexual contact with females. This finding was not pronounced in any specific age group or relationship type making it a general risk factor for CSA.

For rape attitudes, a similar GEE model revealed a statistically significant positive association,  $B = 2.71$ ,  $SE = 5.28$ , Wald  $\chi^2 [1] = 3.90$ ,  $p = .048$ . There were no two-way or three-way interactions with age group and relationship type, Wald  $\chi^2 [2] = 2.36$ ,  $p = .307$ , Wald  $\chi^2 [3] = 6.10$ ,  $p = .107$ , and Wald  $\chi^2 [6] = 6.98$ ,  $p = .323$ , respectively. As expected, stronger attitudes of diminishing rape were associated with a higher probability to encourage sexual contact with females.

For alcohol use, we found a statistically significant positive association,  $B = 10.03$ ,  $SE = 3.64$ , Wald  $\chi^2 [1] = 6.71$ ,  $p = .010$ . There was also a two-way interaction with age group, Wald  $\chi^2 [2] = 8.89$ ,  $p = .012$ , but not with relationship type, Wald  $\chi^2 [3] = 6.78$ ,  $p = .079$ . We did not find a statistically significant three-way interaction, Wald  $\chi^2 [6] = 12.56$ ,  $p = .050$ . To further investigate the two-way interaction of alcohol use and age group, we compared the correlation coefficients between alcohol use and men's self-reported probability to encourage sexual contact for each of the three age groups. The association was positive for adult females,  $r = .20$ , but weakly negative for children,  $r = -.19$ , and approximately null for adolescents,  $r = -.04$ . As expected, higher alcohol use was associated with a higher probability to encourage sexual contact with females. The interaction effect of alcohol use and age group indicated that alcohol use is positively associated with self-reported probability to encourage sexual contact with adult females and negatively correlated with probability to encourage sexual contact with children.

For experiences of sexual abuse during childhood, we found no direct linear association with men's self-reported probability to encourage sexual contact females,  $B = 7.76$ ,  $SE = 5.75$ , Wald  $\chi^2 [1] = 0.14$ ,  $p = .710$ . There was no statistically significant two-way interaction with age group, Wald  $\chi^2 [2] = 1.95$ ,  $p = .378$ . We found a statistically significant two-way interaction with relationship type, Wald  $\chi^2 [2] = 6.54$ ,  $p = .038$ . There was no statistically significant three-way interaction, Wald  $\chi^2 [3] = 4.65$ ,  $p = .200$ . To further investigate the two-way interaction of experiences of child sexual abuse and relationship type, we compared the correlation coefficients between experiences of child sexual abuse and men's self-reported probability to encourage sexual contact for each of the four relationship types. The correlations in each group were all non-significant and close to null, but ranged from  $r = -.03$  for nieces to  $r = 0.7$  for friends' daughters. For non-biological daughters, the correlation was not calculable due to the small number of observations. In conclusion, experiences of childhood sexual abuse were not significantly associated with men's self-reported probability to encourage females.

## Discussion

The aim of the current study was to investigate men's self-reported probability to encourage sexual contact with actual child and adolescent females. We obtained self-report data from a population-based sample of 405 adult Finnish males. These males reported their probability to encourage sexual contact for biological daughters, nieces, non-biological daughters and friends' daughters. We also considered the age of the females, and a number of individual factors shown to be associated with CSA. To the best of our knowledge, the current study was the first to investigate men's self-reported probability to encourage sexual contact with young females, while separating between various types of extra-familial child sexual abuse (CSA-E) and intra-familial child sexual abuse (CSA-I).

### Encouraging Sexual Contact as a Function of Female Age and Relationship Type

Deriving predictions from evolutionary psychology, female age was expected to be positively correlated with encouraging sexual contact only for non-biological daughters and friends' daughters. For biological daughters and nieces, we expected that increased maturity would not increase the probability of encouraging sexual contact. We found that female age is positively associated with encouraging sexual

contact with friends' daughters. A similar but not statistically significant pattern was found also for non-biological daughters. For biological daughters and nieces there was no indication of an association between female age and men's probability of encouraging sexual contact. This is line with earlier findings in which the risk of CSA-E increases with the age of the child (Bergen et al., 2012). In cases of CSA-I the victims tend to be young a pre-pubertal to avoid the risk of inbreeding which increases with puberty (Ventus et al., 2017) but we did not find evidence to support this theory.

Moreover, this model also partly corroborated earlier findings showing that biological relatedness decreases sexual attraction in general (e.g., Antfolk, Lieberman, et al., 2012; Lespiau & Kaminski, 2016). We found that men reported a lower probability to encourage sexual contact with biological daughters compared to nieces, and a lower probability to encourage sexual contact with nieces compared to unrelated daughters. This is in line with evolutionary models suggesting that the costs of inbreeding has led to specific inbreeding avoidance mechanisms (e.g., Antfolk, 2014; Lieberman & Antfolk, 2015). It could also explain why distant relatives are relatively over-represented as offenders in intra-familial child sexual abuse cases. In fact, Fanslow et al. (2006) found uncles to be more than twice as likely perpetrators of CSA-I and grandparents as likely as biological and non-biological fathers. Due to the small sample size of non-biological daughters, it is difficult to draw any strong conclusions regarding this group. It is possible that there is a stronger sexual interest in non-biological daughters that remained undetected in the current study. It is also possible that non-biological daughters are perceived similar to biological relatives, and thus receive very similar treatment (e.g., Antfolk, Karlsson, Söderlund, & Szala, 2017).

### **Arousability, Age Preferences, and Sexual Desire**

Due to the adapted psychology of incest aversion we expected arousability, age preferences and sexual desire to predict the likelihood of CSA for non-biological daughters and friends' daughters but not for biological daughters and nieces. As expected, self-reported arousal was strongly related to men's self-reported probability to encourage sexual contact with friends' daughters but surprisingly also with biological daughters and nieces. However, arousability did not predict the likelihood of encouraging continued sexual contact with non-biological daughters, thereby suggesting that other inhibitors might be in place for non-biological



daughters than in the three other relationship types. It is, however, worth to note that the sample used in our study was very small and a bigger sample might yield different results. Our findings suggest that sexual motivation was an important predictor in these hypothetical scenarios, and that much less could be explained by inhibiting or facilitating factors. Arousability can be perceived as a motivating factor for CSA in accordance with both Finklehor's model and the motivation-facilitation model. However, arousability in this case is a situational motivating factor and not a persistent sexual desire and preference for children and adolescents such as pedophilia. Few studies have looked at the role of situational arousal in CSA. In one of the few studies looking at the role of situational arousal in CSA, Ariely and Loewenstein (2006) also reached the conclusion that arousal increases interests in 12-year-olds compared to a non-aroused state.

In the current study, we did not find any evidence of age preferences or sex drive being associated with men's self-reported probability to encourage sexual contact with females. This differs from previous studies where pedophilia is seen as the prime motivational factor for CSA (e.g. Seto, 2008) or a high sex drive is often present in men interested in children aged 15 or younger (Santtila et al., 2015). As few men reported sexual interest in children and adolescents in our study, it is possible that a bigger sample of men with a sexual interest in children might yield different results. Nevertheless, these findings suggest that arousal and not atypical sexual interest or sex drive might help explain both CSA-E and CSA-I.

#### **Personality Traits, Rape Attitudes, Experiences of Sexual Abuse, and Alcohol Use**

We expected antisocial traits to be more pronounced in non-biological daughters and friends' daughters. However, when looking at a population sample we did not find antisocial traits to be significantly associated with CSA regards to any age nor relationship type. This differs from earlier findings where antisocial traits have been found to be associated with CSA-E (Hanson & Morton-Bourgon, 2005; Pullman et al., 2017; Rice & Harris, 2002). It is possible that small-scale antisocial traits present in a normal population do not give rise to behavior present in convicted child sex offenders.

We expected empathy to be an inhabiting factor and a facilitating factor when empathy is lowered in accordance with previous findings (Mcphail et al., 2013; Seto et al., 2015). Empathy was expected to be more present in CSA-E as it reflects a cognitive dissonance. However, our findings suggest a general tendency not specific

to any age group or relationship type, where lower empathy is a facilitating risk factor for CSA or in reverse a higher level of empathy is a protective inhibitive factor for CSA. This is in line with previous studies that have identified different types of empathy deficits in CSA-E and CSA-I offenders (McPhail et al., 2013; Seto et al., 2015).

Likewise, cognitive distortions and rape attitudes, which can be categorized under antisocial traits, have been found to increase the risk of CSA-E (Seto et al., 2015). Although we expected maladaptive beliefs to be more present in CSA-E than CSA-I we found it to be a general risk factor, not specific to any age group or relationship type. This is in line with Wards (2000) suggestion that cognitive distortions might differ between child sex offenders.

We found that higher alcohol use was associated with a higher probability to encourage sexual contact with adult females but not with children or adolescents. There was also no significant difference with regards to relationship type. This differs somewhat from previous findings where alcohol use has been more pronounced in biological fathers than uncles and non-biological fathers (Pullman et al., 2017). Nonetheless it is in line with Seto et al. (2015) review article in which no difference was found between CSA-I and CSA-E regarding substance abuse. In addition, alcohol abuse seems to be more prevalent among adult sex offenders compared to child sex offenders (Blumenthal, Gudjonsson, & Burns, 1999) which our study also confirms.

Experiences of childhood sexual abuse was not significantly associated with men's self-reported probability to encourage females in our study. This differs from previous studies where a history of sexual abuse has been found to be more present in CSA-I than CSA-E (Jespersen et al., 2009; Seto et al., 2015). This might suggest that a history of sexual abuse alone is not a significant factor in predicting CSA-I and that the normal population might differ from offender samples.

Overall, individual factors did not successfully explain CSA-E nor CSA-I in our study. We found cognitive distortions and low empathy to be general risk factors not associated with specific ages or relationship types. This suggests that other factors play an important role in both CSA-E and CSA-I.

### **Strengths and Limitations of the Current Study**

This current study was conducted in using a large population-based sample. Importantly, it studied men in the general population, whereas offender samples tend

to suffer from various forms of potential selection bias (Seto et al., 2015). Thereby the results of this study can be generalized to a broader population of individuals, including individuals that may be at increased risk of offending. Nevertheless, our sample included only a small number of non-biological daughters. Because of this, it is difficult to draw strong conclusions regarding factors associated with men's probability of encouraging sexual contact with non-biological daughters.

Measuring propensity for behaviors can be problematic, especially when utilizing a survey method (e.g., Voller, Long, & Aosved, 2009). Research investigating the propensity for sexually aggressive behavior and sexual offending against adults reveal promising results using written scenarios describing situations in which various forms of sexual aggression might occur (e.g., Chapleau & Oswald, 2010; Chiroro, Bohner, Viki, & Jarvis, 2004). It is, however, important to note that our measure does not necessarily measure the actual risk of committing CSA. Rather, it measures the perceived probability of encouraging continued sexual contact as a response to behavior initiated by a female child, adolescent or adult. According to Finkelhor's (1986) model, one inhibitor is the potential resistance of the child and another is the presence of an intervening adult. Our formulation of the scenarios might thus reduce the threshold for imagining a continued sexual contact. Further investigation is, however, necessary to confirm the supposed association between the current measure and actual sexual behavior.

It is also important to note that several previously investigated risk and protective factors were not included in the current study. For example, marital discordance and family factors such as harsh discipline, poor attachment etc., have been associated with both CSA-E and CSA-I (Whitaker et al., 2008). With respect to CSA-I, marital conflict might deprive the man of his adult partner, after which the daughter might become a surrogate partner for the biological or non-biological father (Rice & Harris, 2002). Another relevant family factor not investigated in the current study is intimate partner violence, which increases the risk for various forms child neglect and maltreatment (Brown, Cohen, Johnson, & Salzinger, 1998) and CSA (Ramírez, Pinzón-Rondón, & Botero, 2011).

### **Conclusion and Implications for Further Research**

Prior research has demonstrated that atypical sexual interest in children is a strong motivating factor for CSA-E and that individual factors such as antisocial personality traits is a facilitating factor (Seto et al., 2015). Neither factor seems to

explain CSA-I as a phenomenon (Pullman et al., 2017; Seto et al., 2015). Besides cognitive distortions and lower empathy being associated with a general tendency for CSA, no other individual factors were significantly related to CSA-I. Therefore, it is important to consider factors, such as arousal, that might impair the ability to regulate sexual motivations or other factors that might reduce the ability to detect kin and therefore result in faulty inbreeding avoidance. One such factor is paternity certainty (e.g. Antfolk, 2014). Non-biological children are a particularly interesting group, as it remains unclear to whether, and if so, under which conditions, sexual interest in non-biological children is decreased due to inbreeding avoidance systems. To further investigate this group a bigger sample is, however, needed. Our data indicates non-biological children might be at increased risk of experiencing CSA just as they are for other types of child abuse.

Although we found female age to be positively associated with encouraging sexual contact with friend's daughters and an inclination of it affecting non-biological daughters, the role of age needs more scrutiny. This is especially true for CSA-I where the victims tend to be younger. Furthermore, as our results indicate that the individual factors examined in our study did not predict CSA-E, further studies on factors explaining propensity for CSA-E in non-offender samples are needed. One particularly important factor might be situational arousal, which was strongly correlated with CSA-E propensity in the current study.

References

- Albrecht, A., Antfolk, J., Lieberman, D., Harju, C., Sandnabba, N. K., & Santtila, P. (2014). The Finn-Kin study: a sample and method description of a Finnish population-based study of kin-recognition, incest aversion and altruism. *Journal of Social Sciences Research*, 6(1), 915–926.  
<https://doi.org/10.1021/ja01846a068>
- Antfolk, J. (2014). *Incest aversion: The evolutionary roots of individual regulation*. Doctoral dissertation, Abo Akademi University, Turku, Finland. Retrieved from <http://urn.fi/URN:NBN:fi-fe2014040923377>
- Antfolk, J., Karlsson, L. C., Söderlund, J., & Szala, A. (2017). Willingness to invest in children: Psychological kinship estimates and emotional closeness. *Evolutionary Psychology*, 15(2).  
<https://doi.org/https://doi.org/10.1177/1474704917705730>
- Antfolk, J., Karlsson, M., Bäckström, A., & Santtila, P. (2012). Disgust elicited by third-party incest: the roles of biological relatedness, co-residence, and family relationship. *Evolution and Human Behavior*, 33(3), 217–223.  
<https://doi.org/10.1016/j.evolhumbehav.2011.09.005>
- Antfolk, J., Lieberman, D., Albrecht, A., & Santtila, P. (2014). The self-regulation effect of fertility status on inbreeding aversion: When fertile, disgust increases more in response to descriptions of one's own than of other's inbreeding. *Evolutionary Psychology*, 12(3), 621–631.  
<https://doi.org/10.1177/147470491401200308>
- Antfolk, J., Lieberman, D., Harju, C., Albrecht, A., Mokros, A., Santtila, P., & Willführ, K. P. (2018). Opposition to Inbreeding Between Close Kin Reflects Inclusive Fitness Costs. *Front. Psychol.*, 9(2101), 1–9.  
<https://doi.org/10.3389/fpsyg.2018.02101>
- Antfolk, J., Lieberman, D., & Santtila, P. (2012). Fitness costs predict inbreeding aversion irrespective of self-involvement: Support for hypotheses derived from evolutionary theory. *PLoS ONE*, 7(11), 1–8.  
<https://doi.org/10.1371/journal.pone.0050613>
- Antfolk, J., Salo, B., Alanko, K., Bergen, E., Corander, J., Sandnabba, N. K., & Santtila, P. (2015). Women's and men's sexual preferences and activities with

- respect to the partner's age: Evidence for female choice. *Evolution and Human Behavior*, 36(1), 73–79.
- Ariely, D., & Loewenstein, G. (2006). The heat of the moment: the effect of sexual arousal on sexual decision making. *Journal of Behavioral Decision Making*, 19(2), 87–98. <https://doi.org/10.1002/bdm.501>
- Beggs, S. M., & Grace, R. C. (2008). Psychopathy, Intelligence, and Recidivism in Child Molesters. *Criminal Justice and Behavior*, 35(6), 683–695. <https://doi.org/10.1177/0093854808314786>
- Bergen, E., Antfolk, J., Jern, P., Alanko, K., & Santtila, P. (2013). Adults' sexual interest in children and adolescents online: A quasi-experimental study. *International Journal of Cyber Criminology*, 7(2), 94–111.
- Bernstein, D., Stein, J., Newcomb, M., Walker, E., Pogge, D., Ahluvalia, T., ... Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse & Neglect*, 27(2), 169–190. [https://doi.org/10.1016/S0145-2134\(02\)00541-0](https://doi.org/10.1016/S0145-2134(02)00541-0)
- Bittles, A. H., & Neel, J. V. (1994). The costs of human inbreeding and their implications for variations at the DNA level. *Nature Genetics*, 8(2), 117–121.
- Black, D. a, Heyman, R. E., & Smith Slep, A. M. (2001). Risk factors for child sexual abuse. *Aggression and Violent Behavior*, 6(2–3), 203–229. [https://doi.org/10.1016/S1359-1789\(00\)00023-9](https://doi.org/10.1016/S1359-1789(00)00023-9)
- Blumenthal, S., Gudjonsson, G., & Burns, J. (1999). Cognitive distortions and blame attribution in sex offenders against adults and children. *Child Abuse & Neglect*, 23(2), 129–143.
- Bohner, G., & Lampridis, E. (2004). Expecting to meet a rape victim affects women's self-esteem: The moderating role of rape myth acceptance. *Group Processes and Intergroup Relations*, 7(1), 77–87. <https://doi.org/10.1177/1368430204039974>
- Bradley, R. G., Binder, E. B., & Epstein, M. P. (2008). Influence of child sexual abuse on adult depression: Moderation by the Corticotropin -relasing hormone receptor gene. *Archives of General Psychiatry*, 65(2), 190–200.
- Brown, J., Cohen, P., Johnson, J. G., & Salzinger, S. (1998). A longitudinal analysis

- of risk factors for child maltreatment: findings of a 17-year prospective study of officially recorded and self-reported child abuse and neglect. *Child Abuse & Neglect*, 22(11), 1065–1078. [https://doi.org/10.1016/S0145-2134\(98\)00087-8](https://doi.org/10.1016/S0145-2134(98)00087-8)
- Burn, M. F., & 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(3), 225–236. <https://doi.org/10.1016/j.avb.2005.08.002>
- Chaney, B. H., Vail-Smith, K., Martin, R. J., & Cremeens-Matthews, J. (2016). Alcohol use, risky sexual behavior, and condom possession among bar patrons. *Addictive Behaviors*, 60, 32–36. <https://doi.org/10.1016/j.addbeh.2016.03.035>
- Chapleau, K. M., & Oswald, D. L. (2010). Power, sex, and rape myth acceptance: testing two models of rape proclivity. *Journal of Sex Research*, 47(1), 66–78. <https://doi.org/10.1080/00224490902954323>
- Charlesworth, D., & Charlesworth, B. (1987). Inbreeding depression and its evolutionary consequences. *Annual Review of Ecology and Systematics*, 18, 237–268.
- Chiroro, P., Bohner, G., Viki, G. T., & Jarvis, C. I. (2004). Rape myth acceptance and rape proclivity: expected dominance versus expected arousal as mediators in acquaintance-rape situations. *Journal of Interpersonal Violence*, 19(4), 427–442. <https://doi.org/10.1177/0886260503262081>
- Cooper, M. L. (2006). Sexual Behavior ? A Complex Answer to a Simple Question, 15(1), 19–23.
- Curtin, J. J., & Fairchild, B. A. (2003). Alcohol and cognitive control: Implications for regulation of behavior during response conflict. *Journal of Abnormal Psychology*, 112(3), 424–436. <https://doi.org/10.1037/0021-843X.112.3.424>
- Davis, M. H. (1980). A Multidimensional Approach to Individual Differences in Empathy. *JSAS Catalog of Selected Documents in Psychology*, 10, 85–104.
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113–126. <https://doi.org/10.1037//0022-3514.44.1.113>
- Durbeej, N., Berman, A. H., Gumpert, C. H., Palmstierna, T., Kristiansson, M., &

- Alm, C. (2010). Validation of the Alcohol Use Disorders Identification Test and the Drug Use Disorders Identification Test in a Swedish sample of suspected offenders with signs of mental health problems: results from the Mental Disorder, Substance Abuse and Crime study. *Journal of Substance Abuse Treatment, 39*(4), 364–77. <https://doi.org/10.1016/j.jsat.2010.07.007>
- Fanslow, J. L., Robinson, E. M., Crengle, S., & Perese, L. (2007). Prevalence of child sexual abuse reported by a cross-sectional sample of New Zealand women. *Child Abuse and Neglect, 31*(9), 935–945. <https://doi.org/10.1016/j.chiabu.2007.02.009>
- Fernandez, Y. M., Marshall, W. L., Lightbody, S., & O’Sullivan, C. (1999). The Child Molester Empathy Measure: Description and Examination of Its Reliability and Validity. *Sexual Abuse: A Journal of Research and Treatment, 11*(1), 17–31. <https://doi.org/10.1177/107906329901100103>
- Fessler, D. M. T., & Navarrete, C. D. (2003). Domain-specific variation in disgust sensitivity across the menstrual cycle. *Evolution and Human Behavior, 24*(6), 406–417. [https://doi.org/10.1016/S1090-5138\(03\)00054-0](https://doi.org/10.1016/S1090-5138(03)00054-0)
- Finkelhor, D., & Araji, S. (1986). Explanations of pedophilia: A four factor model. *Journal of Sex Research, 22*(2), 145–161.
- Freund, K., Watson, R., & Dickey, R. (1991). Sex offenses against female children perpetrated by men who are not pedophiles. *The Journal of Sex Research, 28*(3), 409–423. <https://doi.org/10.1002/j.1556-6676.1988.tb02586.x>
- Hanley, J. A., Negassa, A., Edwardes, M. D. d. B., & Forrester, J. E. (2003). Statistical analysis of correlated data using generalized estimating equations: An orientation. *American Journal of Epidemiology, 157*(4), 364–375. <https://doi.org/10.1093/aje/kwf215>
- Hanson, R. K., & Bussière, M. T. (1998). Predicting relapse: a meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology, 66*(2), 348–62.
- Hanson, R. K., & Morton-Bourgon, K. E. (2005). The characteristics of persistent sexual offenders: a meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology, 73*(6), 1154–63. <https://doi.org/10.1037/0022-006X.73.6.1154>



- Hardin, J., & Hilbe, J. (2003). *Generalized Estimating Equations*. London: Chapman & Hall.
- IBM Corp. [Computer software]. (2016). IBM SPSS Statistics for Windows, Version 24.0. Armonk, NY: IBM Corp
- Jabbour, A. (2007). *Instrumentality, reactivity and psychopathy in sexual offenses against children: An exploratory analysis*. Doctoral dissertation. Retrieved from [https://etda.libraries.psu.edu/files/final\\_submissions/575](https://etda.libraries.psu.edu/files/final_submissions/575)
- Jespersen, A. F., Lalumière, M. L., & Seto, M. C. (2009). Sexual abuse history among adult sex offenders and non-sex offenders: a meta-analysis. *Child Abuse & Neglect*, *33*(3), 179–92. <https://doi.org/10.1016/j.chiabu.2008.07.004>
- Jewkes, R. K., Dunkle, K., Nduna, M., Jama, P. N., & Puren, A. (2010). Associations between childhood adversity and depression, substance abuse and HIV and HSV2 incident infections in rural South African youth. *Child Abuse & Neglect*, *34*(11), 833–841. <https://doi.org/10.1016/j.chiabu.2010.05.002>
- Kenrick, D., & Keefe, R. (1992). Age Preferences in Mates reflect sex differences in mating strategies. *Behavioral & Brain Sciences*, *15*, 75–91.
- Kilwein, T. M., & Looby, A. (2018). Predicting risky sexual behaviors among college student drinkers as a function of event-level drinking motives and alcohol use. *Addictive Behaviors*, *76*(July 2017), 100–105. <https://doi.org/10.1016/j.addbeh.2017.07.032>
- Kresanov, P., Kotler, J., Seto, M., Lieberman, D., Santtila, P., & Antfolk, J. (2018). Evolution and Human Behavior Intergenerational incest aversion : self-reported sexual arousal and disgust to hypothetical sexual contact with family members ☆. *Evolution and Human Behavior*, *39*(6), 664–674. <https://doi.org/10.1016/j.evolhumbehav.2018.06.008>
- Lespiau, F., & Kaminski, G. (2016). Fitness costs predict emotional, moral, and attitudinal inbreeding aversion. *Frontiers of Psychology*, *7*, 1–7. <https://doi.org/doi:10.3389/fpsyg.2016.01860>
- Lieberman, D., & Antfolk, J. (2015). Human Sexuality and Inbreeding Avoidance. *The Handbook of Evolutionary Psychology*, (November), 444–461. <https://doi.org/10.1002/9781119125563.evpsych116>

- Lieberman, D., Pillsworth, E. G., & Haselton, M. G. (2011). Kin affiliation across the ovulatory cycle: females avoid fathers when fertile. *Psychological Science*, 22(1), 13–8. <https://doi.org/10.1177/0956797610390385>
- Loewenstein, G., Nagin, D., & Paternoster, R. (1997). The effect of sexual arousal on expectations of sexual forcefulness. *Journal of Research in Crime and Delinquency*, 34(4), 443–473.
- Magalhães, T., Taveira, F., Jardim, P., Santos, L., Matos, E., & Santos, A. (2009). Sexual abuse of children. A comparative study of intra and extra-familial cases. *Journal of Forensic and Legal Medicine*, 16(8), 455–9. <https://doi.org/10.1016/j.jflm.2009.05.007>
- Mahmut, M. K., Menictas, C., Stevenson, R. J., & Homewood, J. (2011). Validating the factor structure of the Self-Report Psychopathy scale in a community sample. *Psychological Assessment*, 23(3), 670–8. <https://doi.org/10.1037/a0023090>
- Marshall, W. L., Barbaree, H. E., & Christophe, D. (1986). Sexual Offenders against Female Children: Sexual Preferences for Age of Victims and Type of Behaviour. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement*, 18(4), 424–439. <https://doi.org/10.1037/h0079966>
- Marshall, W. L., Hudson, S. M., Jones, R., & Fernandez, Y. M. (1995). Empathy in sex offenders. *Clinical Psychology Review*, 15(2), 99–113. [https://doi.org/10.1016/0272-7358\(95\)00002-7](https://doi.org/10.1016/0272-7358(95)00002-7)
- McMahon, S., & Farmer, G. L. (2011). An Updated Measure for Assessing Subtle Rape Myths. *Social Work Research*, 35(2), 71–81. <https://doi.org/10.1093/swr/35.2.71>
- Mcphail, I. V., Hermann, C. A., & Nunes, K. L. (2013). Emotional congruence with children and sexual offending against children: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 81(4), 737–749. <https://doi.org/10.1037/a0033248>
- Meneses-Gaya, C., Zuardi, A. W., Loureiro, S. R., Hallak, J. E. C., Trzesniak, C., de Azevedo Marques, J. M., ... Crippa, J. a S. (2010). Is the full version of the AUDIT really necessary? Study of the validity and internal construct of its abbreviated versions. *Alcoholism, Clinical and Experimental Research*, 34(8),

1417–24. <https://doi.org/10.1111/j.1530-0277.2010.01225.x>

Miller, L. (2013). Sexual offenses against children: Patterns and motives. *Aggression and Violent Behavior, 18*(5), 506–519.

<https://doi.org/10.1016/j.avb.2013.07.006>

Nunes, K. L., Hermann, C. a, Renee Malcom, J., & Lavoie, K. (2013). Childhood sexual victimization, pedophilic interest, and sexual recidivism. *Child Abuse & Neglect, 37*(9), 703–11. <https://doi.org/10.1016/j.chiabu.2013.01.008>

Ogrodnik, L. (2010). *Child and Youth Victims of Police-reported Violent Crime.*

*Canadian Centre for Justice Statistics, Statistics Canada.* Ottawa, Canada.

Retrieved from <http://www.statcan.gc.ca/pub/85f0033m/2010023/part-partie1-eng.htm>

Paulhus, D. L., Neumann, C. S., & Hare, R. D. (2015). *Manual for the Hare Self-Report Psychopathy scale.* Toronto, Canada: Multi-Health Systems.

Porter, S., Fairweather, D., Drugge, J., Hervé, H., Birt, A., & Boer, D. (2000).

Profiles of psychopathy in incarcerated sexual offenders. *Criminal Justice and Behavior, 27*, 216–233.

Pullman, L. E., Sawatsky, M. L., Babchishin, K. M., McPhail, I. V., & Seto, M. C.

(2017). Differences between biological and sociolegal incest offenders: A meta-analysis. *Aggression and Violent Behavior.*

<https://doi.org/10.1016/j.avb.2017.01.003>

Ramírez, C., Pinzón-Rondón, A. M., & Botero, J. C. (2011). Contextual predictive factors of child sexual abuse: the role of parent-child interaction. *Child Abuse & Neglect, 35*(12), 1022–31. <https://doi.org/10.1016/j.chiabu.2011.10.004>

Rehan, W., Antfolk, J., Johansson, A., & Santtila, P. (2016). Do single experiences of childhood abuse increase psychopathology symptoms in adulthood? *Journal of Interpersonal Violence, 1*–18. <https://doi.org/10.1177/0886260516647004>

Rice, M. E., & Harris, G. T. (2002). Men who molest their sexually immature daughters: is a special explanation required? *Journal of Abnormal Psychology, 111*(2), 329–339. <https://doi.org/10.1037//0021-843X.111.2.329>

Santtila, P., Antfolk, J., Räfså, A., Hartwig, M., Sariola, H., Sandnabba, N. K., & Mokros, A. (2015). Men's sexual interest in children: One-Year incidence and

- correlates in a population-based sample of Finnish male twins. *Journal of Child Sexual Abuse*, 24(2), 115–134.
- Sariola, H., & Uutela, A. (1996). The prevalence and context of incest abuse in Finland. *Child Abuse & Neglect*, 20(9), 843–850.
- Seemanova, E. (1971). A study of children of incestuous matings. *Human Heredity*, 21, 108–128.
- Seto, M., Babchishin, K., Pullman, L., & McPhail, I. (2015). The puzzle of intrafamilial child sexual abuse: A meta-analysis comparing intrafamilial and extrafamilial offenders with child victims. *Clinical Psychology Review*, 39, 42–57. <https://doi.org/10.1016/j.cpr.2015.04.001>
- Seto, M., & Barbaree, H. E. (1999). Psychopathy, treatment behavior and sex offender recidivism. *Journal of Interpersonal Violence*, 14, 1235–1248.
- Seto, M. C. (2008). *Pedophilia and Sexual Offending against Children: Theory, Assessment, and Intervention*. Washington, DC: American Psychological Association.
- Seto, M. C., & Barbaree, H. E. (1995). The role of alcohol in sexual aggression. *Clinical Psychology Review*, 15(6), 545–566.
- Seto, M., Lalumière, M. L., & Kuban, M. (1999). The sexual preference of incest offenders. *Journal of Abnormal Psychology*, 108(2), 267–272.
- Spector, I. P., Carey, M. P., & Steinberg, L. (1996). The Sexual Desire Inventory: Development, factor structure, and evidence of reliability. *Journal of Sex & Marital Therapy*, 22, 175–190.
- Stoltenborgh, M., van Ijzendoorn, M. H., Euser, E. M., & Bakermans-Kranenburg, M. J. (2011). A global perspective on child sexual abuse: meta-analysis of prevalence around the world. *Child Maltreatment*, 16(2), 79–101. <https://doi.org/10.1177/1077559511403920>
- Tews, H. L. (2013). *The Effects of Offender Age and Offender-Victim Relationship on Modus Operandi Strategies to Lure the Victim. Dissertations and Theses*. Portland State University. <https://doi.org/10.15760/etd.1040>
- Ventus, D., Antfolk, J., & Salo, B. (2017). The Associations between Abuse Characteristics in Child Sexual Abuse : A Meta- Analysis. *Journal of Sexual*

*Aggression*, (April). <https://doi.org/10.1080/13552600.2017.1318963>

- Voller, E. K., Long, P. J., & Aosved, A. C. (2009). Attraction to sexual violence towards women, sexual abuse of children, and non-sexual criminal behavior: testing the specialist vs. generalist models in male college students. *Archives of Sexual Behavior*, 38(2), 235–43. <https://doi.org/10.1007/s10508-008-9343-z>
- Ward, T. (2000). Sexual offenders' cognitive distortions as implicit theories. *Aggression and Violent Behavior*, 5(5), 491–507. [https://doi.org/10.1016/S1359-1789\(98\)00036-6](https://doi.org/10.1016/S1359-1789(98)00036-6)
- Ward, T., Hudson, S. M., & Marshall, W. L. (1996). Attachment style in sex offenders: A preliminary study. *Journal of Sex Research*, 33(1), 17–26. <https://doi.org/10.1080/00224499609551811>
- Ward, T., Keenan, T., & Hudson, S. M. (2000). Understanding cognitive, affective, and intimacy deficits in sexual offenders: a developmental perspective, 5(1), 41–62.
- Whitaker, D. J., Le, B., Karl Hanson, R., Baker, C. K., McMahon, P. M., Ryan, G., ... Rice, D. D. (2008). Risk factors for the perpetration of child sexual abuse: a review and meta-analysis. *Child Abuse & Neglect*, 32(5), 529–48. <https://doi.org/10.1016/j.chiabu.2007.08.005>

## SWEDISH SUMMARY

Mäns självrapporterade benägenhet att uppmuntra sexuell kontakt med kvinnliga barn och ungdomar: betydelsen av släktskap och individuella skillnader

Den globala förekomsten av sexuellt utnyttjande av barn (hädanefter SUB) har uppskattats vara 12,7% (Stoltenborgh et al., 2011). SUB som förekommer inom familjen, hädanefter SUB-I, har ansetts vara associerad med mer psykologiskt lidande (t.ex. Magalhães m.fl., 2009). Offren för SUB-I är i genomsnitt yngre och utnyttjandet pågår en längre tid (t.ex. Seto, Babchishin, Pullman, & McPhail, 2015; Ventus, Antfolk, & Salo, 2017) jämfört med sexuellt utnyttjande av barn som sker utanför familjen, hädanefter SUB-U. Största delen av dömda förövare är män som känner sina offer (Seto, 2008), och upp till en tredjedel är släkt med offret (Ogrodnik, 2010). Farbröder, morbröder, farfäder, och morfäder, bröder, och kusiner är med större sannolikhet förövare jämfört med biologiska och icke-biologiska fäder (Fanslow et al., 2007). Då SUB-I och SUB-U skiljer sig i flera avseenden är det tänkbart att motiverande, inhiberande och främjande faktorer förknippade med SUB också skiljer sig mellan dessa två former av sexuella utnyttjanden. Det är således viktigt att förstå skillnaderna i riskfaktorer för att skapa bättre preventionsstrategier och rehabiliteringsprogram för både offer och förövare.

Den huvudsakliga motivationsfaktorn för SUB anses vara avvikande sexuell intresse för barn, dvs. pedofili. Seto (2008) har uppskattat att hälften av alla män som begår sexuella brott mot barn har ett ihållande sexuell intresse för barn och ungdomar. Däremot anses förövare av SUB-I mindre sannolika att ha ett sexuell pedofilt intresse (Seto, 2008; Seto m.fl., 2015). Överlag påvisar de flesta män ett sexuell intresse för kvinnor i 20 års åldern (Antfolk m.fl., 2015; Kenrick & Keefe, 1992) och därmed ökar också risken för SUB med barnets ålder (Bergen et al., 2013). Offer för SUB-I tenderar att vara yngre (Ventus m.fl., 2017).

Tillika anses sexuell upphetsning minska den kognitiva förmågan, påverka beslutsfattande (Ariely & Loewenstein, 2006) och öka aggressivt sexuell beteende mot kvinnor (Loewenstein et al., 1997). Santtila m.fl. (2015) kom underfund med att män som påvisar sexuell intresse för under 15-åringar också rapporterar överlag större sexualdrift jämfört med andra män.

En annan allmän riskfaktor för SUB är antisocialitet eller psykopati vilket anses indikera en generell tendens för kriminellt beteende (Seto, 2008). Förövare av

SUB-I anses vanligen påvisa mindre antisociala tendenser jämfört med förövare utanför familjen (Beggs & Grace, 2008; Rice & Harris, 2002; Seto & Barbaree, 1999) men en del studier har kommit till motsatt slutsats (Jabbour, 2007; Porter m.fl., 2000). Pullman m.fl. (2017) påstod att även om resultatet inte var statistiskt säkerställt påvisar icke-biologiska släktingar mer antisociala tendenser än förövare som är biologisk släkt med offret.

Andra forskare har kommit till slutsatsen att förövare ofta har brister i empati (Fernandez, Marshall, Lightbody, & O'Sullivan, 1999; Ward m.fl., 1996; Whitaker m.fl., 2008). Förövare utanför familjen har visats ha mindre empati för offret och vara mer fientliga mot kvinnor jämfört med förövare inom familjen (Seto m.fl., 2015). Forskarna föreslog att lägre empati hos förövare utanför familjen kan förklaras av kognitiv dissonans (dvs. att undvika en negativ självbild genom att förvränga uppfattningen om offret eller misshandeln). Däremot kan låg empatisk kongruens med offret enligt forskarna förklaras av emotionell eller social omogenhet hos besläktade förövare. Således anses också kognitiva faktorer såsom vanartade övertygelser eller förvrängt tänkande en riskfaktor för SUB (e.g. Finkelhor, 1984; Seto m.fl., 2015). Ward (2000) poängterade att det kan finnas skillnader mellan förövaras kognitiva avvikelser, vilket gör det svårt att kategorisera förövare.

Slutligen anses missbruk och egna erfarenheter av sexuellt utnyttjande som barn vara riskfaktorer förknippade med SUB. Seto och Barbaree (1995) föreslog att missbruk av alkohol ökar sexuell aggression. Likaså har forskare kommit till slutsatsen att alkohol försämrar planeringsförmåga (Curtin & Fairchild, 2003), minskar sexuella inhibitioner och ökar sexuell lust och sexuell risktagande (Chaney et al., 2016; Cooper, 2006; Kilwein & Looby, 2018). Överlag anses också missbruk tillhöra särdragen för psykopati och anses därför vara mer förekommande i SUB-U (Seto, 2008). Slutligen har forskare kommit underfund med att förövare inom familjen i större grad tenderar att själv ha blivit sexuellt utnyttjade som barn (Jespersen, Lalumière & Seto, 2009). Pullman m.fl. (2017) hittade inte en statistiskt säkerställd skillnad mellan biologiska och icke-biologiska fäder i detta avseende.

Sammanfattningsvis är antisociala särdrag, empatibrister, kognitiv förvrängning och alkoholanvändning mer förekommande inom SUB-U jämfört med SUB-I. Däremot anses sexuell utnyttjning som barn vara mer förekommande bland förövare av SUB-I.

Enligt evolutionspsykologiska teorier är risken för SUB-I mindre än risken för SUB-U på grund av undvikandet av inavel. Inavel tenderar att medföra starka biologiska skador i avkomman av närbesläktade individer såsom ökad mortalitet och grova fysiska defekter (t.ex., Bittles & Neel, 1994; Charlesworth & Charlesworth, 1987; Seemanova, 1971). På grund av dessa negativa konsekvenser anses människan ha utvecklat psykologiska mekanismer för att minska sexuell lust och också för att känna igen närbesläktade individer (Lieberman & Antfolk, 2015). Tanken av sex mellan två individer med samma föräldrar har visat sig vara mer äcklig än tanken av sex mellan halvsyskon, som i sin tur väcker mindre äckel än tanken av sex mellan två kusiner (Antfolk, Lieberman, & Santtila, 2012; Lespiau & Kaminski, 2016) eller mellan två icke-biologiska familjemedlemmar (Antfolk, Karlsson, Bäckström, & Santtila, 2012). Således är det tänkbart att avlägsnare släktingar är i större fara för SUB-I än närbesläktade individer. Då mäns sexuella intresse för icke-besläktade kvinnor ökar med barnets ålder borde psykologiska mekanismer som skyddar mot inavel hindra SUB av närbesläktade barn som nått reproduktiv ålder.

Målsättningen med studien var att undersöka mäns självrapporterade benägenhet att uppmuntra sexuell kontakt med faktiska kvinnliga barn och ungdomar. Vi tog i beaktande släktskapsbandet, kvinnornas ålder och individuella faktorer som anses vara riskfaktorer för SUB. Få studier har tidigare skiljt på olika typer av SUB-I genom att jämföra fäder, morbröder, farbröder och icke-biologiska fäder gällande riskfaktorer för SUB (Pullman m.fl., 2017; Rice & Harris, 2002; Seto m.fl., 2015).

Följande hypoteser beträffande mäns självrapporterade benägenhet att uppmuntra sexuell kontakt med kvinnliga barn och ungdomar formades baserat på existerande forskning:

1. Benägenheten för sexuellt utnyttjande av barn och unga är större bland män som inte är biologiskt släkt med barnen
2. Benägenheten ökar i relation med barnets ålder men bara om barnet inte är en biologisk släkting.
3. Benägenheten förklaras i större utsträckning av sexuell upphetsning och sexuellt intresse för icke-biologiska döttrar och barn utanför familjen jämfört med biologiskt besläktade barn.
4. Individuella särdrag (dvs. antisocialitet, empati, kognitiv förvrängning, alkoholanvändning och sexuellt utnyttjande i barndomen) förklarar i



större utsträckning sannolikheten av SUB-U än SUB-I. Undantaget är sexuellt utnyttjande i barndomen för vilken ett omvänt samband förväntades.

### Metod

Den etiska nämnden vid Åbo Akademi beviljade studien etiskt tillstånd år 2012. Data vi använde härstammade från en populationsbaserad enkätstudie av finländare (Finn-Kin; Albrecht m.fl., 2014). Deltagarna ( $N = 405$ ) i vår studie var heterosexuella män mellan åldrarna 18 och 56 ( $M = 39.98$ ,  $SD = 6.54$ ) och valdes på grund av att de hade rapporterat att de hade antingen en biologisk dotter, en bror/systerdotter, en icke-biologisk dotter, en vän med en dotter eller en kombination av dessa, sammanlagt 1012 relationer av intresse. Namnen på relationerna av intresse (hädanefter personer) hade erhållits tidigare under studien men sparades inte i datafilen för att garantera anonymitet. Urvalet bestod av slumpmässigt valda personer på populationsnivå vars adresser hade erhållits från Befolkningsregistreringscentralen. Inbjudan till att delta i en elektronisk enkät samt en beskrivning av studien skickades till deltagarna via post. Att delta i studien var frivilligt och anonymt, och efteråt hade deltagarna möjlighet att ta del av ett presentkortslotteri.

Personerna av intresse kategoriserades i tre ålderskategorier. Barngruppen bestod av barn i åldern 0 till 12, ungdomsgruppen av ungdomar mellan åldrarna 13 och 17 och vuxengruppen av personer över 18 år.

För att mäta självrapporterad upphetsning och benägenhet att uppmuntra sexuell kontakt skapades fyra olika scenarier. Deras ordning presenterades slumpmässigt. Varje person av intresse som deltagaren tidigare hade namngett i enkäten lades slumpmässigt till ett scenario så att deltagaren svarade på ett till fyra scenarion beroende på antalet personer som uppgetts. Ett exempel på ett scenario var ”Föreställ dig att du sitter tillsammans med [namn på person] på en soffa en fredag kväll och ser på film. Du har en skål med popcorn i famnen och ser [namn på person] räcka handen efter popcornen men känner istället att hen börjar smeka dina genitalier”. Därefter svarade deltagarna på en skala från 0 till 100 hur sannolikt deltagaren skulle uppmuntra personen att fortsätta och hur upphetsad han skulle känna sig i en liknande situation.

Individuella särdrag mättes genom förkortade versioner av allmänt använda och valida skalor av sexuell lust (SDI, Spector, Carey & Steinberg, 1996), psykopati (SRP-III, Paulhus, Neumann & Hare, 2015), empati (IRI, Davis, 1980;1983), acceptans av våldtäcktmyter (IRMA, McMahon & Farmer, 2011), alkoholmissbruk (AUDIT kort version, Meneses-Gaya m.fl., 2010) och sexuell utnyttning i barndomen (CTQ-SF, faktorn med högsta värdet, Bernstein m.fl., 2003). Ålderspreferens mättes som en skild fråga där deltagare skulle uppskatta den lägsta åldern på en person de kunde tänka sig ha sex med.

För analyserande av resultaten användes statistikprogrammet SPSS 22.0 (Version 24.0; IBM Corp., 2016). Generaliserade Estimeringskvationer (GEE) användes i alla analyser varefter signifikanta interaktioner analyserades genom enkla bivariata korrelationer.

## Resultat

Vi började med att undersöka sambandet mellan mäns självrapporterade benägenhet att uppmuntra sexuell kontakt med hjälp av en GEE modell som visade sig vara statistiskt säkerställd ( $p < .001$ ). Likaså hittade vi både en tvåvägsinteraktion ( $p < .001$ ) och en trevägsinteraktion ( $p = .045$ ). Män rapporterade mindre benägenhet att uppmuntra sexuell kontakt med biologiska döttrar jämfört med syskonbarn ( $p = .025$ ) och vänners döttrar ( $p < .001$ ). Ingen skillnad mellan icke-biologiska döttrar och biologiska döttrar eller syskonbarn framkom. Benägenheten att uppmuntra sexuell kontakt med vänners döttrar var signifikant högre jämfört med alla andra relationstyper ( $p < .001$ ,  $p < .001$ , och  $p = .037$ ). En parvis jämförelse mellan åldersgrupperna visade att benägenheten var större för den vuxna gruppen jämför med åldersgrupperna barn ( $p = .013$ ) och ungdomar ( $p = .028$ ). Inga andra skillnader förekom.

Till följande undersökte vi sambandet mellan upphetsning, ålderspreferenser samt sexualdrift och mäns självrapporterade benägenhet att uppmuntra sexuell kontakt. Vi hittade ett starkt positivt samband mellan benägenhet och upphetsning,  $B = .69$ ,  $SE = 0.08$ , Wald  $\chi^2 [1] = 178.45$ ,  $p < .001$ . En statistiskt säkerställd trevägsinteraktion (Wald  $\chi^2 [6] = 114.57$ ,  $p < .001$ ) mellan upphetsning, åldersgrupp och relationsgrupp utsattes för enkel bivariatanalys. Analysen visade en positiv korrelation av  $r = .05$  för icke-biologiska döttrar och korrelationer mellan  $r = .75$  och

$r = .99$  för de övriga grupperna. Observationen av icke-biologiska döttrar grundades på endast 8 observationer. Upphetsning i de olika åldersgrupperna varierade enligt relationstyp så att den var starkt korrelerat i alla grupper förutom för icke-biologiska döttrar.

En GEE modell med empati som kontinuerlig prediktor och åldersgrupp samt relationsgrupp som faktorer och benägenhet som utfall antydde ett statistiskt säkerställt samband,  $B = -.20$ ,  $SE = 0.23$ , Wald  $\chi^2 [1] = 4.42$ ,  $p = .004$ . Varken tvåvägs- eller trevägsinteraktioner var signifikanta. Som förväntat förknippades lägre empati med en ökad sannolikhet för uppmuntrande av sexuell kontakt men var inte specifik för en viss ålders- eller relationsgrupp.

Likaså var GEE modellen för våldtäcktattityder positivt förknippad med mäns benägenhet att uppmuntra sexuell kontakt med barn och unga,  $B = 2.71$ ,  $SE = 5.28$ , Wald  $\chi^2 [1] = 3.90$ ,  $p = .048$ . Inte heller i detta fall förekom en statistiskt säkerställd två- eller trevägsinteraktion. Som förväntat var starka våldtäcksattityder positivt korrelerade med en ökad sannolikhet för män att uppmuntra sexuell kontakt men var inte specifik för enstaka ålders- eller relationsgrupper.

Alkohol användning hade också ett positivt statistiskt säkerställt samband med mäns benägenhet att uppmuntra sexuell kontakt med barn och unga,  $B = 10.03$ ,  $SE = 3.64$ , Wald  $\chi^2 [1] = 6.71$ ,  $p = .01$ . Vi hittade inte en trevägsinteraktion men det uppkom en tvåvägsinteraktion för ålder, Wald  $\chi^2 [2] = 8.89$ ,  $p = .012$ . Närmare undersökt med enkla korrelationer mellan benägenhet och mäns alkohol användning i de tre åldersgrupperna, visade det sig att alkohol användning var svagt positivt korrelerad för den vuxna åldersgruppen  $r = .20$  och svagt negativt korrelerad med barn  $r = -.19$  och unga  $r = -.04$ . Resultaten tyder på att alkohol användning är positivt korrelerad med benägenhet att uppmuntra sexuell kontakt med vuxna kvinnor.

För de övriga individuella faktorerna, dvs. antisociala särdrag, ålderpreferenser, sexualdrift och erfarenhet av sexuell utnyttning i barndomen hittade vi inte ett statistiskt säkerställt samband med benägenhet.

## Diskussion

Syftet med studien var att undersöka faktorer som påverkar mäns benägenhet att sexuellt utnyttja barn och unga och samtidigt skilja mellan biologiska fäder, icke-biologiska fäder samt mor/farbröder som potentiella förövare i ett populationsurval.

Vi förväntade oss att barnets ålder skulle positivt korrelera med benägenhet för SUB för icke-biologiska döttrar och vänners döttrar. Vi hittade en positiv korrelation för vänners döttrar samt en positiv men icke-signifikant korrelation för icke-biologiska döttrar. Våra forskningsrön stämmer överens med tidigare forskning om att risken för SUB-U ökar med barnets ålder (Bergen, m.fl., 2012). Däremot stöder våra resultat inte Ventus m.fl:s. (2017) teori om att SUB-I offer tenderar att vara yngre och prepubertala.

Vår studie bekräftar även tidigare studier som visat att biologiskt släktskap minskar sexuell attraktion överlag (t.ex. Antfolk, Lieberman m.fl., 2012; Lespiau & Kaminski, 2016) och att människan förmodligen har utvecklat mekanismer för att undvika inavel (t.ex. Antfolk, 2014; Lieberman & Antfolk, 2015). Männerna i studien rapporterade mindre självuppskattad benägenhet att uppmuntra sexuell kontakt med biologiska döttrar jämfört med syskonbarn och mindre benägenhet för syskonbarn jämfört med icke-besläktade flickor. På grund av att det fanns så få icke-biologiska döttrar i vår studie, är det svårt att dra definitiva slutsatser om denna grupp. Det är möjligt att det finns ett starkare sexuellt intresse för icke-biologiska döttrar än det framkom i vår studie. Likaså är det möjligt att icke-biologiska döttrar uppfattas på samma sätt som biologiska döttrar and behandlas därmed lika (Antfolk, Karlsson, Söderlund & Szala, 2017).

På grund av människans tendens att uppfatta sex mellan närbesläktade sexpartners som motbjudande förväntade vi oss att upphetsning, ålderspreferenser och sexualdrift skulle predicera benägenhet att uppmuntra sexuell kontakt för icke-biologiska döttrar och vänners döttrar men inte för biologiska döttrar och syskonbarn. Förvånansvärt nog var upphetsning strakt korrelerad med benägenhet att uppmuntra sexuell kontakt med såväl vänners döttrar som biologiska döttrar och syskonbarn. Eftersom vi inte hittade en korrelation mellan benägenhet och upphetsning för icke-biologiska döttrar är det sannolikt att det finns andra faktorer som inhiberar mäns benägenhet för SUB i denna relationsgrupp. Än en gång var urvalet för icke-biologiska döttrar för litet för att dra definitiva slutsatser och ett större urval kunde möjligen medföra andra resultat.

Sexualdrift och ålderspreferenser visade sig däremot inte vara korrelerade med mäns benägenhet att uppmuntra sexuell kontakt med barn och unga. Det här skiljer sig från tidigare studier där pedofilt intresse har ansetts vara den huvudsakliga

motiverande faktorn (t.ex. Seto, 2008). Tillika tenderar män som är intresserade av barn och unga under 15 år att ha en stark sexualdrift (Santtila m.fl., 2015). Eftersom endast få män rapporterade sexuellt intresse av barn och unga i vår studie är det möjligt att ett större sampel med män intresserade av barn och unga skulle visa annorlunda resultat. Trots allt, tyder våra resultat på att situationsbunden upphetsning och inte avvikande sexuellt intresse eller sexualdrift kan förklara både SUB-U och SUB-I.

Förutom ett allmänt samband mellan kognitiva förvrängningar, alkoholanvändning samt brister i empati och SUB hittade vi inte statistiskt säkerställda samband mellan individuella faktorer och mäns benägenhet att uppmuntra sexuell kontakt med barn och unga. Medan kognitiva förvrängningar och brister i empati agerade som en allmän riskfaktor för SUB var alkoholanvändning en riskfaktor för att män ska uppmuntra sexuell kontakt med vuxna. Det här tyder på att andra faktorer än de individuella faktorerna vi studerat har en avgörande inverkan på mäns benägenhet för SUB. Därför är det viktigt att studera andra faktorer såsom upphetsning, som kan försämra förmågan att reglera sexuell motivation. Andra möjliga faktorer som kan påverka speciellt SUB-I är förmågan att skilja på biologiska släktingar och icke-biologiska släktingar. En sådan faktor är säkerhet på faderskap (t.ex. Antfolk, 2014).

Den nuvarande studien baserade sig på ett populationsurval vilket möjliggjorde undersökande av män tillhörande den allmänna befolkningen, till skillnad från flertal andra studier av brottslingar där olika former av urvals bias förekommit (Seto m.fl., 2015). Däremot hade vi endast ett litet urval av icke-biologiska döttrar i vår studie, vilket gör det svårt att dra slutsatser om vilka faktorer påverkar denna grupps risk att utsättas för SUB.

Även om benägenhet för sexuell aggression undersökts framgångsrikt med hjälp av scenarier (t.ex. Hapleau & Oswald, 2010; Chiroro, Bohner, Viki, & Jarvis, 2004) är det problematiskt att mäta benägenhet hjälp av frågeformulär (t.ex. Voller, Long & Aosved, 2009). Det är tillika värt att nämna att vårt mått på benägenhet inte nödvändigtvis mäter den faktiska risken att begå SUB. Istället är det ett mått på en självuppskattad sannolikhet av att uppmuntra en fortsatt sexuell kontakt som redan etablerats av ett barn, en ungdom eller vuxen.

Det är också viktigt att nämna att vi inte inkluderade en del tidigare studerade riskfaktorer som t.ex. äktenskapsproblem, intimt partnervåld och familjefaktorer

Anna Albrecht

såsom disciplinär uppfostring och dålig anknytning i vår studie (Ramírez, Pinzón-Rondón, & Botero, 2011; Rice & Harris, 2002; Whitaker m.fl., 2008).

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## PRESSMEDDELANDE

### **Situationsbunden upphetsning kan förklara mäns benägenhet att sexuellt utnyttja barn och ungdomar både innanför och utanför familjen**

Pro Gradu-avhandling i psykologi

Fakulteten för humaniora, psykologi och teologi vid Åbo Akademi

Resultaten från en pro gradu-avhandling vid Åbo Akademi tyder på att mäns benägenhet att uppmuntra sexuell kontakt med kvinnliga barn och unga, både innanför och utanför familjen, delvis kan förklaras av situationsbunden upphetsning. I studien undersöktes inverkan av släktskapsband och riskfaktorer associerade med sexuellt utnyttjande av barn. Resultaten indikerar att syskonbarn och icke-besläktade barn har större risk att utsättas för sexuell misshandel jämfört med biologiska barn. Undersökningen utfördes av pro gradu-skribent Anna Albrecht under handledning av postdoktoral forskare Jan Antfolk inom ramen för projektet ”Finn-Kin” vid Åbo Akademi.

Studien visar också att individuella skillnader i exempelvis antisociala särdrag och brister i empati samt en sexuell preferens för barn och unga inte förklarar mäns benägenhet att sexuellt utnyttja barn och unga. Det här indikerar enligt Albrecht att det krävs fortsatt forskning i andra möjliga riskfaktorer, såsom situationsbunden upphetsning som skulle kunna hjälpa förklara varför män sexuellt utnyttjar barn och unga både inom och utanför familjen.

Deltagarna bestod av 405 heterosexuella vuxna män. Materialet samlades in med hjälp av ett frågeformulär där deltagarna svarade på frågor gällande antisociala särdrag, empatiförmåga, upphetsningsgrad och benägenhet att uppmuntra barn och unga till sexuell kontakt.

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