



# **Sexually abusive behaviour among young sexual abused or physical abused Icelandic males and females: The mediating effect of anger and depressed mood**

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2013

BSc in Psychology

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### **Abstract – English**

It is believed that individuals under the age of 17 are responsible for about 20% of all sexual offences. There are various factors that contribute to this behaviour and this topic has been the subject in numerous studies aimed at finding what factors sexual offenders have in common. This study investigated whether males were more likely to report sexual offending and if those who report sexual offending also reported history of sexually abuse and history physical abuse. Anger and depressed mood were also looked at in regards to whether or not these factors mediated the effect of sexual abuse and physical abuse on sexual offending. The sample used in this study consisted of 7430 participants, all students in 9th and 10th grade in secondary schools in Iceland with mean age of 15.5 years. Correlations, one-way ANOVA and binary logistic regression were used to test for the main interaction and mediating effects. The results of this study indicated that being a male, reporting a history of sexual abuse and physical abuse and experiencing anger independently predicts reporting sexual offending. Furthermore, anger turned out to partially mediate the relationship between sexual abuse and physical abuse and sexual offending.

### **Abstract – Icelandic**

Talið er að börn, 17 ára og yngri, séu ábyrg fyrir um 20% allra kynferðisbrota. Ýmsir þættir geta stuðlað að þessari hegðun og eru margar rannsóknir sem skoða hvað þessir einstaklingar eiga sameiginlegt. Í þessari rannsókn var skoðað hvort strákar væru líklegri til að vera gerendur kynferðisofbeldis og hvort að þeir einstaklingar sem að segjast hafa þvingað einhvern til kynferðisathafna eða samfara séu líklegri til að eiga sjálfir sögu um kynferðislegt ofbeldi og/eða líkamlegt ofbeldi. Einnig var skoðað hvort reiði og þunglyndi miðluðu áhrifum kynferðisofbeldis og líkamlegs ofbeldis á að vera gerandi kynferðisofbeldis. Þátttakendur rannsóknarinnar voru 7430 nemendur í 9. og 10. bekk allra grunnskóla á Íslandi og var meðalaldur þátttakanda 15,5 ára. Fylgnigreining, dreifigreining og aðhvarfsgreining voru notaðar til að skoða megin-, miðlunar- og samvirkniáhrif. Niðurstöður rannsóknarinnar benda til þess að það að vera strákur, eiga sögu um kynferðisofbeldi og líkamlegt ofbeldi og upplifa reiði séu sjálfstæðir forspárþættir fyrir að beita aðra kynferðisofbeldi. Ennfremur reyndist reiði miðla áhrifum kynferðisofbeldis og líkamlegs ofbeldis á að vera gerandi kynferðisofbeldis.

### **Sexually abusive behaviour among young sexual abused or physical abused Icelandic males and females: The mediating effect of anger and depressed mood**

Sexual offence is generally a criminal category that invokes strong feelings of fear and disgust among people. That is especially true when the victims are young children since most people find themselves obligated to guard and take care of children. However, it seems that not everyone realize that children can also be perpetrators. It has been evaluated that children, seventeen years old or younger, are responsible for 20% of all sexual offences (Barbaree & Marshall, 2006). Various factors can contribute to this behaviour and there are numerous studies aimed at finding what these sexual offenders have in common.

### **Sexual abuse and physical abuse**

One of the most frequently discussed contributing factor for sexual offending is previous experience of sexual abuse. Studies have shown that in many instances the sexual offenders have themselves been the victims of sexual abuse as children (McCormack, Rokous, Hazelwood, & Burgess, 1992; Salter et al., 2003; Seto & Lalumière, 2010; Sigurdsson, Gudjonsson, Asgeirsdottir & Sigfusdottir, 2010; Simons, Wurtele & Durham, 2008). Studies on sexual offenders suggest that 25-70% have a history of sexual abuse during childhood (Simons, Wurtele & Durham, 2008). A study by Salter et al. (2003) reported that only 12% (26 of 224) of boys who had been the victims of sexual abuse as children became sexual offenders later in live. The follow-up of the study was conducted 7-19 years after the initial abuse and showed that sexual offenses occurred only few years after the abusers had been victimized themselves. The average age of the victims' sexual abuse was 11 years and the average age of the offenders was 14 years. The children who became sexual offenders after being victims of sexual abuse themselves were significantly more likely to have also

## PREDICTORS OF SEXUAL OFFENDING

witnessed serious intra-familial violence. These children were also more likely to have lacked parental supervision and experienced neglect and been abused by a female perpetrator (Salter et. al., 2003).

A meta-analysis of 57 studies performed by Seto and Lalumière (2010) compared male adolescents who had committed sexual offences and male adolescents who had committed non-sexual crimes. The result of the studies (16 of 57) that included both sexual and physical abuse showed that sex offenders were more likely to have been sexually abused as children than non-sex offenders (odds ratio=4.81) and were also more likely to have been physically abused (odds ratio=1.60). Sex offenders were more likely to have witnessed sexual abuse in the family but not other kind of violence. Those studies that distinguished offenders according to victims' age showed that sexual offenders who targeted children were more likely to have been victims of sexual abuse than those that targeted adults. There were however no significant differences between the two groups for history of physical abuse. The results of this study and others (Seto & Lalumière, 2010; Simons, Wurtele & Durham, 2008) support the hypothesis that there is an association between childhood sexual abuse and becoming a sexual offender later in life. It also shows that other types of abuse (non-sexual abuse), like physical abuse, can be a contributing factor for sexual offending.

Based on the social learning theory (Bandura, 1977) behaviour is learned by observing other people around us performing various behaviours. The social learning theory is sometimes used to help explain how bad experience or negative life events can lead to criminal behaviour over time. The cycle of violence is largely linked to social learning where early exposure to physical and emotional abuse is positively associated with violent crime (Widom, 1989). A study conducted by Wisdom and Ames (see Wisdom & Maxfield, 2001) compared a group of children (908 participants) who had, based on court records, either been sexually abused, physically abused or neglected before the age of 12 to a group of children

## PREDICTORS OF SEXUAL OFFENDING

(667 participant) who had not been maltreated. The two groups were similar in, age, race, gender ratio and socioeconomic status. The results of the study showed that all three kinds of abuse did increase the likelihood of committing sexual offences as adults, however, having a history of sexual abuse as a child did not relate stronger to sexual offences in adulthood than history of physical abuse (Widom & Maxfield, 2001). Nevertheless, not all research are consistent as several studies have indicated that history of sexual abuse or physical abuse do not predict sexual offending (e.g. Hanson & Bussière, 1996).

### **Anger and depression**

Studies have indicated that child abuse can lead to emotional distress and risky sexual behaviour among children and adolescents (Zierler et al., 1991). Some previous studies have demonstrated that there is a link between sexual abuse and a range of psychological problems and behavioural problems (Kendall-Tackett et al. 1993; Kilpatrick et al., 2003). Physical abuse has also been linked to anxiety and fear, low self-esteem, depressive symptomatology, interpersonal problems, aggressive behaviour and sexual disturbances (Malinosky-Rummell & Hansen, 1993). Study by Kendall-Tackett, Williams and Finkelhor (1993) showed that depression, aggression, self-destructive behaviour and delinquency were common symptom among sexually abused children. Other emotional reactions like anger and aggression have also been linked to sexual abuse (Kendall-Tackett et al. 1993; Turner et al. 2006). Based on Agnew (2006), anger and depressed mood is likely to cause delinquent behaviour among stressed adolescents. General Strain Theory (GST) by Agnew (2006) suggests that when people are not treated as they would like to be treated it may contribute to angry emotional state that seeks for revenge which can appear in the form of crime. The criminal responses can appear in many forms, for example in violence (Agnew, 2006). Recent studies have

## PREDICTORS OF SEXUAL OFFENDING

supported this theory by indicating that that depressed mood and anger are important mediators in the relationship between sexual abuse and suicidal behaviour, delinquency, self-injurious behaviour and substance abuse (Asgeirsdottir, Sigfusdottir, Gudjonsson & Sigurdsson, 2011; Sigfusdottir, Farkas & Silver, 2004). The results of a study done by Sigfusdottir, Asgeirsdottir, Gudjonsson, and Sigurdsson (2008) showed for example that anger was a critical mediating variable between sexual abuse and delinquency while depressed mood was a stronger mediator between sexual abuse and suicidal behaviour. Anger and depressed mood were showed to contribute to different behavioural outcomes. Hence, anger seems to be a stronger predictor for outwardly directed behaviour and depressed mood for inwardly directed behaviour (Sigfusdottir, et. al, 2008). Similarly, Howells, Day and Wright (2004) reviewed the association between emotions, affect and sexual offences and showed that emotions like anger can result in sexual aggression. Marshall and Marshall (2000) proposed that sex offenders are more likely than non-offenders to use sexual behaviour as a coping style in a state of affect.

### **Gender differences in sexual offending**

When considering gender differences in sexual offending it is clear that vast majority of sex offenders are male. Studies suggest that females are responsible for less than 5% of all sex offenses against children and youth (Grayston & De Luca, 1999). It is though conceivable that female sexual offenses are greatly underreported. The majority of studies on sexual offending only consider male offenders. The studies that have considered both genders have shown that females who commit sexual offenses are more likely to have been themselves victims of sexual abuse compared to male offenders (e.g. Grayston & De Luca, 1999). The general strain theory considers that gender differences in behavioural outcomes can be

## PREDICTORS OF SEXUAL OFFENDING

attributed to greater tendency of boys to respond to strain with externalizing emotion like anger and to the greater tendency for girls to respond to strain with internalizing emotion like depressed mood (Broidy & Agnew, 1997). Since anger is linked to sexual offending and boys have greater tendency to respond to strain with anger it can be argued that boys are more likely to commit sexual offences.

### **The present study**

The purpose of the present study is to investigate self-reported sexually abusive behaviour among a large national sample of Icelandic young males and females. In the study participants who report having persuaded, pressured, or forced someone to engage in sexual acts (in the last 12 months) were compared to those who had not. In this paper ‘sexual offender’ is defined as a male or a female who reports having “persuaded, pressured, or forced someone to engage in sexual acts” (in the last 12 months). Based on the literature discussed the following hypothesis were put forward:

1. Males are significantly more likely to commit sexual offences than females.
2. History of sexual abuse increases the likelihood of sexual offending.
3. History of physical abuse increases the likelihood of sexual offending.
4. Anger and depressed mood mediate the effect of sexual abuse and physical abuse on sexual offending.
5. Anger is a stronger mediator than depressed mood between sexual and physical abuse and sexual offending (since anger is more likely to predict outwardly-directed behaviour).

## PREDICTORS OF SEXUAL OFFENDING

The current study examines males and females with considerations to anger and depressed mood as mediating variables for sexual offending that has not, to the knowledge of author, been examined before. This study also tested for gender differences in regards to effects of abuse and emotional state on sexual offending.

### **Method**

#### **Participants and procedure**

This study uses data from Icelandic Centre for Social Research and Analysis (ISCRA), which are based on a cross-sectional anonymous self-report national survey in Iceland (e.g. Asgeirsdottir et al., 2011; Sigfusdottir et al., 2008; Sigurdsson et al., 2010). The data were collected in March 2006, among 9th and 10th graders in all secondary schools in Iceland. Anonymous questionnaires and envelopes for returning completed questionnaires were distributed to participants. Teachers supervised the participation of the students in the study and administered the survey questionnaire at individual school sites. The participants were kindly asked to answer all questions as honest as possible and ask for help if needed. They were informed that some questions might include sensitive matter and that they could stop participating at any time. The participants were notified that all data were confidential. When the questionnaires were completed, the participants put them in blank envelopes. All students who attended school on the day that the questionnaires were scheduled to be administered, completed the questionnaire inside their classrooms. There were a total of 7430 participants, which is 80.1% of this age groups total population in Iceland. The gender ratio in the sample was 48.6% boys and 48.7% girls but 2.66% of the participants did not specify gender. The average age of the participants was 15.5 years. The sample is highly representative for this age group in Iceland.



## PREDICTORS OF SEXUAL OFFENDING

### **Measures**

The questionnaire contained 105 questions relating to students family and social background, education, parental and peer group relations, lifestyle, emotional well being, sexual experiences, abuse and offending. The questions used in this study regard sexual offending, gender, sexual abuse, physical abuse, anger and depressed mood. The following variables were used in the study.

#### **Control variable.**

Gender was used as control variable to avoid effects that can be contributed to gender differences. Participant's gender was coded with 2 for girls and 1 for boys.

#### **Sexual offending.**

Sexual offending was the dependent variable in this study and was measured with two questions. Participants were asked if they had persuaded, pressured or forced someone to engage in sexual acts in the last 12 months as well as if they had persuaded, pressured or forced someone to have intercourse in the last 12 months. The questions were coded with 1 for those who reported having sexually offended someone once or more often in the last 12 months and 0 for those who reported not having sexual offended someone in the last 12 months.

## PREDICTORS OF SEXUAL OFFENDING

### **Sexual abuse.**

Two questions were used to measure if participants had been victims of sexual abuse. Participants were asked if they had been persuaded, pressured or forced to engage in sexual acts as well as if they had been persuaded, pressured or forced to have intercourse. The questions were coded with 1 for yes and 0 for no.

### **Physical abuse.**

To measure physical abuse participants were asked two questions, if they had witnessed a physical abuse at home and if they had been victims of physical abuse at home. These questions were coded with 1 for yes and 0 for no.

### **Anger.**

Anger was used as a mediating variable and was measured with five questions. The participants were asked how often during the previous week the following statements applied to them: “I was easily annoyed and irritated”, “I experienced outbursts of anger that I could not control”, “I wanted to break or damage things”, “I had a row with someone” and “I yelled at somebody or threw things”. The responses were measured on a 4 point scale, 3 = “often”, 2 = “sometimes”, 1 = “seldom” 0 = “never”. The whole scale ranged from 0 to 15. To assess the reliability of the scale Coefficient alpha (Cronbach, 1951) was calculated, which is the most common measure of internal scale reliability. The results showed scale reliability for “Anger” to be 0.84.

### **Depressed mood.**

Depressed mood was also used as a mediating variable. Ten questions were used to measure depressed mood. Participant were asked how often during the previous week the

## PREDICTORS OF SEXUAL OFFENDING

following statements applied to them: “I was sad or had little interest in doing things”, „I had little appetite“, “I felt lonely”, “I had sleeping problems”, “I cried easily or wanted to cry”, “I felt sad or blue”, “I was not excited in doing things”, “I was slow or had little energy”, “The future seemed hopeless” and “I had suicidal thoughts”. The responses were measured on a 4 point scale, 3 = “often”, 2 = “sometimes”, 1 = “seldom” 0 = “never”. The whole scale ranged from 0 to 30. The scale had a Cronbach’s alpha of 0.90 indicating good internal reliability.

### **Data analysis**

A chi-square test of independence was performed to examine the relation between variables. The chi-square test was followed up by logistic regression to formulate a statistical models to assess the relationship between the independent variables and dependent variable. This statistical model indicates the odds of an individual to fall into certain group (dependent variable) based on several independent variables. Where the categorical outcomes are only two the analysis is known as binary logistic regression (Field, 2009). The dependent variable used in this study was whether or not an individual had a history of offending against someone sexually. Correlations, one-way ANOVA and binary logistic regression were used to test for the main, interaction and mediating effects. The four steps of Baron and Kenny (1986) were used to examine if anger and depressed mood mediated the effects of sexual abuse and physical abuse on sexual offending.

### Results

The results showed that 1.4% of the participants or 104 individuals reported having persuaded, pressured or forced someone to engage in a sexual act or intercourse in the last 12 months. Of those 17.7% were girls and 82.3% were boys. Of those who reported sexually offending someone in the last 12 months 32% reported having been victims of sexual abuse themselves and 27.8% having been a witness or a victim of physical abuse in contrast to a small minority or 5.5% and 4.9% of those who did not report offending. Table I shows percentage and frequency of male and female participants, sexual abused and physical abused participants in relation to reporting sexual offending and non-sex offending. Looking at the table we see that 2.3% of male participants report having sexual offended someone and 0.5% of females. A chi-square test of independence was performed to examine the relation between variables. The relation between gender and sexual offending was significant,  $X^2(1, N = 6912) = 43.01, p < .001$ . Of those who report having been a victim of sexual abuse 8.0% reported having committed a sexual offence against someone and 1.1% of those who did not report having been a victim of sexual abuse reported committing a sexual offence. In terms of those who have been a witness or a victim of physical abuse, 7.6% report having committed a sexual offence against someone and 1.1% of those who did not report having been a witness or a victim of physical abuse reported committing a sexual offence. The relation between sexual abuse and sexual offending was also significant,  $X^2(1, N = 6974) = 128.86, p < .001$  as for physical abuse  $X^2(1, N = 6786) = 100.62, p < .001$ .

## PREDICTORS OF SEXUAL OFFENDING

Table I.

*Descriptive statistics for sexual offending by gender, sexual abuse and physical abuse tested with chi-square test.*

		Sex offender	Non-sex offender	Total	Chi-square
Variables		Percentage (Frequency)	Percentage (Frequency)	Percentage (Frequency)	
Gender	Male	2.3% (79)	97.7% (3310)	100% (3389)	43.01*
	Female	0.5% (17)	99.5% (3506)	100% (3523)	
Sexual abuse	Yes	8.0% (33)	92.0% (378)	100% (411)	128.80*
	No	1.1% (70)	98.5% (6493)	100% (6563)	
Physical abuse	Yes	7.6% (27)	92.4% (330)	100% (357)	100.62*
	No	1.1% (70)	98.9% (6359)	100% (6429)	

\*  $p < .001$

In Table II, Model 1 shows the results of the logistic regression for gender, sexual abuse and physical abuse when predicting sexual offending. The results show that gender, sexual abuse and physical abuse are all significantly related to sexual offending. There is a negative relationship between gender and sexual offending, which indicates that males are more likely to report having committed a sexual offence than females. The odds of sexual offending are 11.7 times higher if an individual also reports having been a victim of sexual abuse himself. The results show that the odds of sexual offending are 3.3 times higher if the individual has reported being a victim or a witness of physical abuse at home. This model explained 2% (according to Cox & Snell R square) to 17% (according to Nagelkerke's adjusted value) of the variance of the dependent variable, sexual offending.

## PREDICTORS OF SEXUAL OFFENDING

Table II.

*Logistic regression for gender, sexual abuse and physical abuse when predicting sexual offending.*

		Model 1					
		B	S.E.	Sig.	Exp(B)	95% C.I. for EXP(B)	
						Lower	Upper
Step 1 <sup>a</sup>	Gender	-2.084	.297	.000	.124	.070	.223
	Sexual abuse	2.460	.315	.000	11.699	6.307	21.701
	Physical abuse	1.188	.313	.000	3.281	1.776	6.059
	Constant	-2.050	.358	.000	.129		

a. Variable(s) entered on step 1: Gender, Sexual abuse, Physical abuse.

To examine if anger and depressed mood mediated the effects of sexual abuse and physical abuse on sexual offending the four steps of Baron and Kenny (1986) were used. The first step is to show that the initial variable is significantly related to the outcome as is shown in Table II. The variables must be significantly associated in order for there to be an effect that may be mediated. In step two an association between the initial variable and the mediator is demonstrated where it is shown that both sexual abuse and physical abuse have a significant effect on anger and depressed mood. One-way ANOVA showed that sexual abuse was associated with anger [ $F(1,7132) = 257.917, p < .001$ ] and depressed mood [ $F(1,6999) = 563.397, p < .001$ ]. Physical abuse was also significantly associated with anger [ $F(1,6952) = 223.782, p < .001$ ] and depressed mood [ $F(1, 6816) = 309.338, p < .001$ ].

The third step is to show that the mediator variable (anger and depressed mood) affects

## PREDICTORS OF SEXUAL OFFENDING

the outcome variable (sexual offending). Both anger and depressed mood are associated with sexual offending but as shown in table IV anger is an independent predictor for sexual offending but depressed mood is not an independent predictor when controlled for anger.

The fourth step is then to determine if anger completely mediates the effect between sexual abuse and sexual offending and between physical abuse and sexual offending. When the mediating variables, anger and depressed mood are entered into the regression model (see table IV/model 2) it shows that the effect of sexual abuse and physical abuse decreases but continue to have significant effect on sexual offending. To have a complete mediation sexual abuse and physical abuse should have become insignificant when the mediation variables were entered in the model. Where three of four steps are met it implies a partial mediation. Anger partially mediates the effect of sexual abuse and physical abuse on sexual offending. Model 2 explained 3% (according to Cox & Snell R square) to 20% (according to Nagelkerke's adjusted value) of the variance of the dependent variable, sexual offending.

## PREDICTORS OF SEXUAL OFFENDING

Table IV.

*Logistic regression for gender, sexual abuse, physical abuse, anger and depressed mood when predicting sexual offending.*

Model 2						
	B	S.E.	Sig.	Exp(B)	95% C.I. for EXP(B)	
					Lower	Upper
Gender	-2.321	.327	.000	.098	.052	.186
Sexual abuse	2.202	.340	.000	9.044	4.647	17.599
Physical abuse	1.157	.320	.000	3.180	1.697	5.958
Anger	.087	.033	.008	1.091	1.023	1.163
Depressed mood	.023	.020	.254	1.023	.983	1.065
Constant	-2,370	,395	,000	,093		

a. Variable(s) entered on step 1: Gender, Sexual abuse, Physical abuse, Anger, Depressed mood.

When testing for gender interactions the only interaction that was significant was for the interaction between gender and sexual abuse ( $\text{Exp}(B) = .093$ ,  $p < .001$ ) which implies that sexual abuse is a stronger predictor for sexual offending for boys than girls. Other gender interactions were insignificant.

## Discussion

Many studies have examined the developmental and personal histories of sex offenders and tried to find some factors that may be influential in causing individuals to commit a sexual offence. Among this large national sample of Icelandic adolescents used in the current study, 1.4% or 104 individuals reported having sexually offended someone in the



## PREDICTORS OF SEXUAL OFFENDING

last 12 months or 2.3% of males and 0.5% of females. The findings support the first hypothesis of males being significantly more likely to commit sexual offence, which is consistent with previous research (Grayston & De Luca, 1999).

The findings also supports the second hypothesis and show that being a victim of sexual abuse is positively associated with being a sex offender but history of sexual abuse is one of the most commonly found explanation for sexual offending in the literature (Burton, Miller & Shill, 2002; McCormack, Rokous, Hazelwood, & Burgess, 1992; Salter et al., 2003; Seto & Lalumière, 2010; Simons, Wurtele & Durham, 2008; Van Wijk et. al., 2006). When the responses of students reporting a history of committing sexual offence was compared to those who did not, it was found that 32% had been victims of sexual abuse themselves and 27.8% had been a witness or a victim of physical abuse in contrast to those who had not reported offending, there only 5.5% had been victims of sexual abuse and 4.9% victims of physical abuse. Even though many studies on sex offenders have shown that high percentage have been themselves victim of sexual abuse the current results indicate that not all sexual abusers have been victims of sexual abuse and vast majority of people who have been sexual abused do not become sex offenders. Sexual abuse is therefore not a necessary or a sufficient factor for becoming a sexual offender where clearly not all victims become perpetrators. It has proven difficult to establish the actual cause for individuals committing sexual offences because it usually doesn't occur in the absence of other problematic behaviour (e.g. Seto & Lalumière, 2010; Sigurdsson et al., 2010; Silovsky & Niec, 2002).

The findings of the study also support the third hypothesis whereas physical abuse was significantly and independently related to sexual offending. These results are in line with other studies where difficult experiences like physical abuse or other forms of abuse are often linked to sexual offending (Seto & Lalumière, 2010; Sigurdsson et al., 2010; Silovsky & Niec, 2002). Evidence suggest that history of sexual abuse is only one of several factors that have

## PREDICTORS OF SEXUAL OFFENDING

an adverse effect on the development of the individual and can result in sexual offending (Agnew, 2006; Seto & Lalumière, 2010; Sigurdsson et al., 2010; Silovsky & Niec, 2002; Simons, Wurtele & Durham, 2008; Van Wijk et. al., 2006). The results of this study indicate that both sexual abuse and physical abuse are independent predictors of sexual offending.

The fourth hypotheses is also supported by the findings, indicating that anger mediates the effect of sexual abuse and physical abuse on sexual offending which is consistent with previous research on emotional state and behavioural outcomes (Agnew, 2006; Asgeirsdottir et al., 2011; Sigfusdottir et al., 2008). Anger and depressed mood are overlapping emotions (Sigfusdottir et al., 2004) that might explain why depressed mood becomes statistically insignificant when both anger and depressed mood are entered in the logistic model. That indicates that those sexual offenders who have symptoms of depressed mood also have symptoms of anger.

Finally, anger is a stronger mediator for sexual offending supporting the fifth hypothesis of anger having more effect than depressed mood on sexual offending were it is a stronger predictor for outwardly-directed behavior (Sigfusdottir et al., 2008). Research suggest that that gender differences in behavioural outcomes due to strain may be a part of the reason for males to be more likely to commit sexual offences (Brody & Agnew, 1997).

When testing for gender interactions the only interaction that was significant was for sexual abuse, which implies that sexual abuse is a stronger predictor for sexual offending for boys than girls, which is not in line with previous research where it is considered that sexual abuse is a stronger predictor for girls (Grayston & De Luca, 1999). Other gender interactions were insignificant.

The above findings should be interpreted with caution since the study has several limitations. First, 5.0% of the participant or 373 individuals did not answer whether or not

## PREDICTORS OF SEXUAL OFFENDING

they had persuaded, pressured or forced someone to engage in sexual acts or intercourse in the last 12 months. The reason for why these questions were unanswered by so many is unknown. The 12 month timeframe causes only those who have forced someone to sexual acts in the last 12 months to answer „yes“ but those who did for more than 12 months to answer „no“ which may cause a certain deviation where they fall into the comparison group and are defined as not having committed a sexual offence. Second, recall biases and inaccuracy in reporting cannot be ruled out were the study relies on self-report measures. Studies have suggested the possibility that some sex offenders claim to have history of sexual abuse for sympathy where sexually abused- sexual abuser hypothesis is now widely known (Jespersen, Lalumière, Seto, 2009; Stirpe & Stermac, 2003). Research based on existing data or criminal records has however shown a higher rate of sexual abuse among sex offenders (Fagan & Wexler, 1988). Third, in terms of sexual abuse there was no timeframe so it is not possible to know with certainty whether childhood sexual abuse is a relevant factor for later sexual offending or just sexual abuse in general. The duration and frequency of the abuse as well as the gender or age of the abuser and the relationship between abuser and victim were not taken into account. Fourth, this study did not take into account other factors that studies have shown to be associated with sexual offending or used a comparison group of individuals who reported having committed non-sexual crimes. Since this is a cross sectional study causal inferences could not be made.

The main strengths of the study is the large sample size were 80.1% of this age groups total population in Iceland completed the questionnaire which make them highly representative for this age group in Iceland. The anonymity of the participants is also a great strength were it should increase the probability of honest answers in which many questions concerning sensitive matter. Therefore the anonymity would undoubtedly result in more individuals responding truthfully to both being victims of sexual abuse as well as being

## PREDICTORS OF SEXUAL OFFENDING

perpetrators of sexual offences. The study included both males and females, which should be considered an advantage since few studies examine both genders. Community studies like this one are important were large part of sexual abuse are unreported (Masson & Erooga, 1999) indicating that the accurate picture of the extent and nature of sexual abuse or sexual offending in the community is unknown.

In conclusion, the results indicated that being a male, reporting a history of sexual abuse and physical abuse and experiencing anger independently predicts reporting sexual offending. Furthermore, anger turned out to mediate the relationship between sexual abuse and physical abuse and sexual offending. These results suggest that more research is needed on emotional reactions after adverse life events and how they are related to later problem behaviour and violence, including sexual offending. Future studies should for example study the effects of frequency, duration, gender and age of the victim, age of the abuser, gender of the abuser and the relationship between the victim and abuser. It is of crucial importance to continue studying sex offenders to help understanding the reasons for these offences and possibly aid in reducing sexual violations, that in turn will yield in more effective treatment options for sexual offenders.

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