



## **BSc in Psychology**

# Children of Formerly and Currently Incarcerated Parents in Iceland: Is Parental Incarceration a Predictor for Antisocial Behavior in Children?

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### Abstract

The purpose of this research study was to examine if parental incarceration is a predictor for antisocial behavior in children of formerly and currently incarcerated parents in Iceland. Based on previous research, children of incarcerated parents were expected to show greater antisocial behavior. In addition, parental support was expected to be a protective factor for antisocial behavior among said children. Participants were 10.783 Icelandic children, aged 12 to 18 years old, in 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> grade in elementary school. The overall response rate was 86.3%. A binary logistic regression showed that the odds of reporting antisocial behavior were higher for children of incarcerated parents, compared to their peers, and that parental support is a protective factor for antisocial behavior, but not for children of incarcerated parents. After the control variables; gender, family violence and sexual abuse, were added to the logistic regression model, as well as the independent variable; parental support, the odds for antisocial behavior were not significantly higher for children of incarcerated parents, compared to their peers. This indicates that the parental incarceration only explains a portion of the likelihood of antisocial behavior and that various other factors may contribute to antisocial behavior for these children.

*Keywords:* parental incarceration, parental support, antisocial behavior, children, adolescents

### Útdráttur

Markmið rannsóknarinnar var að skoða hvort fangelsisvist foreldra sé spábáttur fyrir andfélagslegri hegðun hjá börnum fyrrverandi og núverandi fanga á Íslandi. Byggt á fyrri rannsóknum var búist við að börn fanga sýndu meiri andfélagslega hegðun. Þá var búist við að foreldrastuðningur væri sterkur verndandi þáttur fyrir andfélagslegri hegðun hjá börnum fanga. Þátttakendur voru 10.783 íslensk börn, á aldrinum 12 til 18 ára, í 8., 9. og 10. bekk í grunnskóla. Heildarsvarhlutfallið var 86,3%. Tvíundargreining sýndi fram á að líkur á andfélagslegri hegðun voru hærri hjá börnum fyrrum og núverandi fanga, samanborið við önnur börn og að foreldrastuðningur er verndandi þáttur fyrir andfélagslegri hegðun, þó ekki fyrir börn fanga. Eftir að stjórnbreytur kyn, fjölskylduofbeldi og kynferðisofbeldi voru settar í tvíundargreininguna, sem og frumbreytan foreldrastuðningur, voru líkurnar á andfélagslegri hegðun ekki marktækt hærri fyrir börn fyrrum eða núverandi fanga, samanborið við önnur börn. Þetta gefur til kynna að fangelsisvistun foreldra skýri aðeins hluta af líkunum á andfélagslegri hegðun og að fleiri þættir virðast stuðla að andfélagslegri hegðun hjá þessum börnum.

*Lykilorð:* fangelsisvist foreldra, foreldrastuðningur, andfélagsleg hegðun, börn, unglingar

### Foreword and Acknowledgements

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## Children of Formerly and Currently Incarcerated Parents in Iceland: Is Parental Incarceration a Predictor for Antisocial Behavior in Children?

Children of incarcerated parents have been described as the “hidden victims” or the “invisible victims” of crime, because they are an underserved and understudied social group, and therefore invisible to the larger society (Miller, 2006; Reed & Reed, 1997; Seymour, 1998). In 1997 there were approximately 10 million children in the United States that had either one or both of their parents formerly or currently incarcerated (Reed & Reed, 1997). Due to lack of information, the numbers of children who have or have had incarcerated parents are unknown worldwide but are expected to be increasing because of growing incarcerated populations (Murray, Farrington & Sekol, 2012; Seymour, 1998). Like elsewhere, many Icelandic prisoners have children. In November 2017, the proportion of Icelandic prisoners who had children was 44.4% in Akureyri (Bjartur Davíðsson, personal communication, November 2, 2017), 42.9% in Kvíabryggja (Þorsteinn Jónasson, personal communication, November 2, 2017), and 57.1% in Hólmsheiði, the only prison currently housing female prisoners, 88.9% of whom had children (Þórir Guðlaugsson, personal communication, November 3, 2017).

### **Antisocial Behavior**

Parental incarceration has been shown to be associated with higher risk of antisocial behavior in children (Murray et al., 2012; Myers, Smarsh, Amlund-Hagen, & Kennon, 1999). Antisocial behavior has been defined in various ways; most definitions include descriptions of violations of guidelines and social norms, aggression and deliberate patterns of disturbing and destructive behavior (Baker, Jacobson, Raine, Lozano & Bezdjian, 2007). Delinquency is a form of antisocial behavior, it is a legal concept, referring to adolescents’ lawbreaking behaviors and is often associated with other forms of antisocial behavior (Smith & Stern, 2007).

Murray and Farrington (2008) concluded that children of incarcerated parents were three times more likely to show antisocial behavior compared to their peers. Children of incarcerated parents are also six times more likely than others to be incarcerated themselves when they grow up (Woodward, 2003). Murray and Farrington (2008) did not find evidence to support this claim in their study. Risk of future incarceration depends on parent gender. For example, adult children of mothers who have been imprisoned are about 2.5 times more likely to be incarcerated themselves than adult children of fathers who have been imprisoned (Dallaire, 2007).

Several factors might be partly responsible for the association between parental imprisonment and children's antisocial behavior, such as genetic risks before the parental incarceration (Murray & Farrington, 2005). In a research study, constructed by Murray and Farrington (2005), 71% of boys who experienced having one or both parents incarcerated during their childhood showed antisocial behavior at the age of 32, compared to 19% of boys who were not separated from their parents and whose parents never went to prison. Boys who had been separated from a parent because of parental incarceration were at the highest risk for antisocial and delinquent behavior, they also had more adverse outcomes than boys whose parents had been imprisoned before they were born, which indicates that the effects of parental incarceration are not very highly genetic. Children's antisocial and delinquent behavior could also be an imitation of their parents' behavior, as children learn of what they see and know (Allard & Greene, 2011). Based on these findings, there is strong evidence of an association between parental incarceration and antisocial behavior, although there is little evidence of causal effect (Myers et al., 1999).

### **Trauma and Parental Support**

Parental incarceration is often associated with other possible risk factors for antisocial behavior, such as trauma. Besides parental imprisonment, the children of prisoners are likely

to have more traumatic experiences prior to the parental incarceration, which is only one of many factors that may affect the children's outcomes in life. Therefore, children of incarcerated parents might have started to show behavioral problems before their parents arrest or incarceration (Geller, Garfinkel, Cooper, & Mincy, 2009; Johnson & Waldfogel, 2002; Murray et al., 2012; Myers et al., 1999; Seymour, 1998). Many of them have been exposed to parental substance abuse and mental health problems, as parents who have been incarcerated are more likely to expose their children to their own antisocial behavior. Parents who have been imprisoned are more likely to have a history of both personal and family difficulties than parents who have not been imprisoned, difficulties such as domestic violence and sexual abuse, in addition to criminal history (Kjellstrand, Cearley, Eddy, Foney, & Martinez Jr., 2012). The childhood trauma of incarcerated mothers is comparable to their children's trauma (Greene, Haney and Hurtado, 2000). The majority of incarcerated mothers come from families where physical and/or sexual abuse is prevalent, and their children have similar histories, therefore it cannot be overlooked that children of incarcerated parents are likely to have been at a disadvantage before the parental incarceration (Greene et al., 2000; Kjellstrand et al., 2012; Murray & Farrington, 2008).

Parental support has been found to be a protective factor against various adverse behaviors in adolescence, such as substance abuse and delinquency (Wills & Cleary, 1996). Evidence suggest that parental support induces coping skills in adolescents and skills of problem solving, and as a result, adolescents who have parental support, are more likely to approach problems with direct action, and less likely to use avoidance or aggression as coping mechanisms (Wills & Cleary, 1996). This suggests that parental support could reduce the risk of antisocial behavior in children of incarcerated parents.

## **Current Study**

Parental incarceration has been shown to be associated with higher risk of antisocial behavior in children, children of incarcerated parents have been stated to be three times more likely to show antisocial behavior compared to their peers (Murray and Farrington, 2008; Murray et al., 2012). Parental incarceration is often associated with trauma for the children of the incarcerated parents, such as physical and/or sexual abuse, which are factors that may contribute to antisocial behavior (Greene et al., 2000). Parental support has been found to be a protective factor against various adverse behaviors in adolescence, including antisocial behavior (Wills & Cleary, 1996). The purpose of this research study is to find out if parental incarceration is a predictor for antisocial behavior in children of formerly and currently incarcerated parents in Iceland. In the current research study, two hypotheses were put forth. Based on previous research studies, the first hypothesis is that parental incarceration predicts greater antisocial behavior in children of formerly and currently incarcerated parents, compared to their peers. The second hypothesis is that parental support is a particularly strong protective factor for antisocial behavior in children of formerly or currently incarcerated parents. Because parental incarceration is often associated with trauma for children of incarcerated parents, controlling for family violence and sexual abuse is important, as well as to control for gender effects, to identify unique effects associated with antisocial behavior. This is the first study in Iceland where the relationship between parental incarceration and antisocial behavior is examined, as well as being the first study where an attempt is made to identify a protective factor for children of incarcerated parents in Iceland.

## **Method**

### **Participants**

Data from the survey *Youth in Iceland 2014* were used in this study. Data collection was supervised by the Icelandic Centre for Social Research and Analysis (ICSRA) in

February 2014. Participants were Icelandic children in 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup> grade in elementary school. A total of 10,783 students took part in the study, 5,255 boys (48.7%), 5,410 girls (50.2%) and 118 (1.1%) who did not identify their gender. Participants' age ranged from 12 years old to 18 years old. All participants answered the same questionnaire. The questionnaire was sent to all elementary schools in Iceland and all students present in class that day answered the questionnaire, the overall response rate was 86.3% (Pálsdóttir et al., 2014). No payment or additional credit was granted for participation.

### Measures

**Children of incarcerated parents.** This was assessed with two questions. "Has something of the following happened to you": "Father or mother been sentenced to prison" and "Parent or a guardian had to be imprisoned due to a crime". The questions were measured on a four-point scale (1 = *yes, in the last 30 days*, 2 = *yes, in the last 12 months*, 3 = *yes, more than 12 months ago*, and 4 = *no*). During data processing, the two questions were computed into one variable and recoded so that there were only two numerical values for the question, 0 = *parent has never been incarcerated or imprisoned*, and 1 = *parent has at some point been incarcerated or imprisoned*. This was an independent variable in the study, named Parental incarceration.

**Parental support.** This was assessed in five questions on how easy or difficult it would be for individuals to get each of the following from their parents: "caring and warmth", "discussions about personal issues", "advice regarding studying", "advice regarding other work (subjects)", and "assistance with various work". The scale ranged from 1 = *very difficult*, to 4 = *very easy*. All the questions were computed into one variable during data processing, named Parental support, the scale ranged from 5 to 20, a higher numerical value indicating a higher parental support. Cronbach's alpha for the questions was acceptable ( $\alpha = .89$ ) and the variable has been used in other research studies (Asgeirsdottir, Gudjonsson,

Sigurdsson & Sigfusdottir, 2010; Sigfusdottir, Farkas & Silver, 2004). This was an independent variable in the study.

**Antisocial behavior.** Three variables that fall under antisocial behavior were used to create a single variable named Antisocial behavior, one for violent behavior, one for delinquency and one for rule breaking (Smith & Stern, 2007). Violent behavior was measured on how often in the past 12 months individuals acted in violent ways. This was assessed in six questions on how often in the past 12 months individuals had done each of the following: “punched someone”, “pushed someone”, “kicked someone”, “hit someone”, “strangled someone”, and “threatened someone with violence”. The scale ranged from 1 = *never*, to 7 = *18 times or more*. All the questions were computed into one variable during data processing. Delinquency was measured in five questions on how often individuals took part in delinquent behavior. This was assessed in five questions on how often (if ever), individuals had done each of the following in the past 12 months: “stolen something worth less than 5000 kr.”, “stolen something worth more than 5000 kr.”, “used violence in order to rob”, “broke in to buildings or cars to steal something”, and “damaged or destroyed things that did not belong to you”. The scale ranged from 1 = *never*, to 7 = *18 times or more*. All the questions were computed into one variable during data processing. Rule breaking was measured in six statements, where participants reported how much the following statements applied to them in the past 12 months: “I broke rules at home”, “I broke rules at school”, “I got into a fight”, “I skipped school”, “I ran away from home”, and “I got into trouble for lying or stealing”. The scale ranged from 1 = *rarely or almost never* to 4 = *almost always or always*. All the statements were computed into one variable during data processing. The three variables were computed during data processing and recoded so that there were only two numerical values for the variable, 0 = *no* (has not shown antisocial behavior in the last 12 months), and 1 = *yes*

(has shown antisocial behavior in the last 12 months). Antisocial behavior was a dependent variable in the study.

**Control variables.** Three control variables were used to avoid effects that can be contributed to other factors and to identify unique effects associated with antisocial behavior.

**Gender.** Gender was used to avert effects that can be contributed to gender differences (1 = *male*, 2 = *female*).

**Family violence.** This was assessed with two questions, where participants reported if any of the following had happened to them: “You witnessed a physical assault at home where an adult was involved”, and “You experienced a physical assault at home where an adult was involved”. The questions were measured on a four-point scale (1 = *yes, in the last 30 days*, 2 = *yes, in the last 12 months*, 3 = *yes, more than 12 months ago*, and 4 = *no*). During data processing, the two questions were computed into one variable, named Family violence, and recoded so that there were only two numerical values for the question, 0 = *never witnessed or experienced family violence*, and 1 = *having witnessed or experienced family violence*.

**Sexual abuse.** This was assessed with two questions, where participants reported if anything of the following had happened to them: “You experienced sexual abuse/violence by an adult”, and “You experienced sexual abuse/violence by a person of a similar age”. The questions were measured on a four-point scale (1 = *yes, in the last 30 days*, 2 = *yes, in the last 12 months*, 3 = *yes, more than 12 months ago*, and 4 = *no*). During data processing, the two questions were computed into one variable, named Sexual abuse, and recoded so that there were only two numerical values for the question, 0 = *never been sexually abused*, and 1 = *having been sexually abused at any timepoint*.

## **Procedure**

This research study was based on *Youth in Iceland 2014*, a survey conducted by ICRSA in February 2014 (Pálsdóttir et al., 2014). A questionnaire was sent to all elementary

schools in Iceland where it was presented by teachers on the same day in all schools, students who were present in class that day took part in the research. The teachers got instructions on how to present the questionnaire, so all students got the same information. When students had answered the questionnaire, they were asked to put it in an unmarked envelope. The students were given information not to mark the envelopes with names or social security numbers, to prevent that answers could be traced back to individuals. Participants were asked to answer all questions to the best of their ability and ask for help if they needed.

### **Data analysis**

The software package SPSS Statistics, version 22, was used for statistical analysis. A chi-square test was used for descriptive statistics and an independent t-test was used to compare means between two groups. The assumption for normal distribution for the dependent variable, antisocial behavior, was violated, so a hierarchical logistic regression was used to assess the odds of an individual to report antisocial behavior, based on the independent variables. A binary logistic regression was conducted because the outcome variables only had two levels.

### **Results**

Results show that 2.6% of the children had parents who were currently incarcerated or had been incarcerated in the past, 2.9% of the boys and 2.3% of the girls. Participants' gender divided equally ( $M = 1.51$ ,  $SD = .50$ ). Girls and boys were equally likely to have or have had incarcerated parents, 56.0% were boys and 44.0% were girls. Antisocial behavior was reported among 59.8% of the participants ( $M = .60$ ,  $SD = .49$ ). Most of the children reported high parental support ( $M = 17.58$ ,  $SD = 2.98$ ). Sexual abuse was reported by 4.6% of the participants ( $M = .05$ ,  $SD = .21$ ), and 5.6% reported family violence ( $M = .06$ ,  $SD = .23$ ).

A chi-square test was conducted to test whether there was a difference in the likelihood of children to show antisocial behavior, based on if they had incarcerated parents.

Children of formerly or currently incarcerated parents were more likely to show antisocial behavior, 82.7% of children who had formerly, or currently incarcerated parents reported antisocial behavior, compared to 59.2% of the children whose parents were never incarcerated  $\chi^2(1, 10093) = 56.798, p < .001$ . An independent t-test was conducted to test if children of incarcerated parents reported more or less parental support. Children whose parents had never been incarcerated reported significantly higher parental support compared to those who had currently or formerly incarcerated parents,  $t(268.423) = 10.893, p < .001$ . Chi-square tests were conducted to test if children of incarcerated parents were more or less likely to report family violence and sexual abuse (see table 1). Children of incarcerated parents were more likely to report family violence,  $\chi^2(1, 10780) = 1641.46, p < .001$ , and to report sexual abuse,  $\chi^2(1, 10782) = 1124.42, p < .001$ , compared to children whose parents had never been incarcerated.

Table 1

*The percentage of how many children of formerly and currently incarcerated parents have experienced the control variables, compared to their peers*

	Family violence	Sexual abuse
Children of incarcerated parents	60.7%	45.9%
Children whose parents were never incarcerated	4.2%	3.5%

To test the association between antisocial behavior and parental incarceration alone, a single binary logistic regression was conducted for those variables. Results show that the odds of reporting antisocial behavior are 3.3 times higher for children of formerly or currently incarcerated parents,  $\chi^2(1, 10783) = 63.476, p < .001$ . The model only explained 0.6% (according to Cox & Snell R square) to 0.8% (according to Nagelkerke's adjusted value) of the variance of antisocial behavior.

To clarify the odds of an individual to report antisocial behavior, based on the predictors, another binary logistic regression was conducted (see table 2).

Table 2

*Binary logistic regression predicting antisocial behavior*

Predictors	Block 1		Block 2		Block 3		Block 4	
	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
Gender	-.95	.39**	-.95	.39**	-.96	.38**	-.97	.38**
FV	1.50	4.49**	1.44	4.23**	1.09	2.98**	1.11	3.04**
SA	.95	2.59**	.93	2.52**	.77	2.16**	.79	2.20**
PI			.42	1.52*	.25	1.29	-3.45	.32
PS					-.17	.85**	-.17	.84**
Interactions								
PI x PS							.19	1.21**
PI x Gender							.38	1.47
Constant	1.76	5.79**	1.75	5.76**	4.75	115.57**	4.86	129.05**
-2 LL	12548.21		12543.04		12149.63		12131.57	
Chi-Sqr	726.06**		731.23**		1124.64**		1142.70**	
Cox&Snell	.071		.072		.108		.110	
R Sqr	.071		.072		.108		.110	
Nagelkerke	.096		.097		.146		.148	
R Sqr	.096		.097		.146		.148	
df	3		4		5		7	

*Note.* FV = Family violence; SA = Sexual abuse; PI = Parental incarceration; PS = Parental support.

\* $p < .05$ . \*\* $p < .001$ .

Results of the logistic regression analysis show that block 1, the model which considered all the control variables, was statistically significant,  $\chi^2(3, 9843) = 726.058, p < .001$ . This indicates, that the odds for a student to report antisocial behavior were related to the three control variables, the strongest predictor being family violence, followed by sexual abuse. The odds of antisocial behavior were 4.5 times higher for children who reported family

violence, and 2.6 times higher for children who reported sexual abuse, compared to their peers. Gender was negatively related to antisocial behavior, indicating that boys were more likely to report antisocial behavior ( $p < .001$ ) (see table 2).

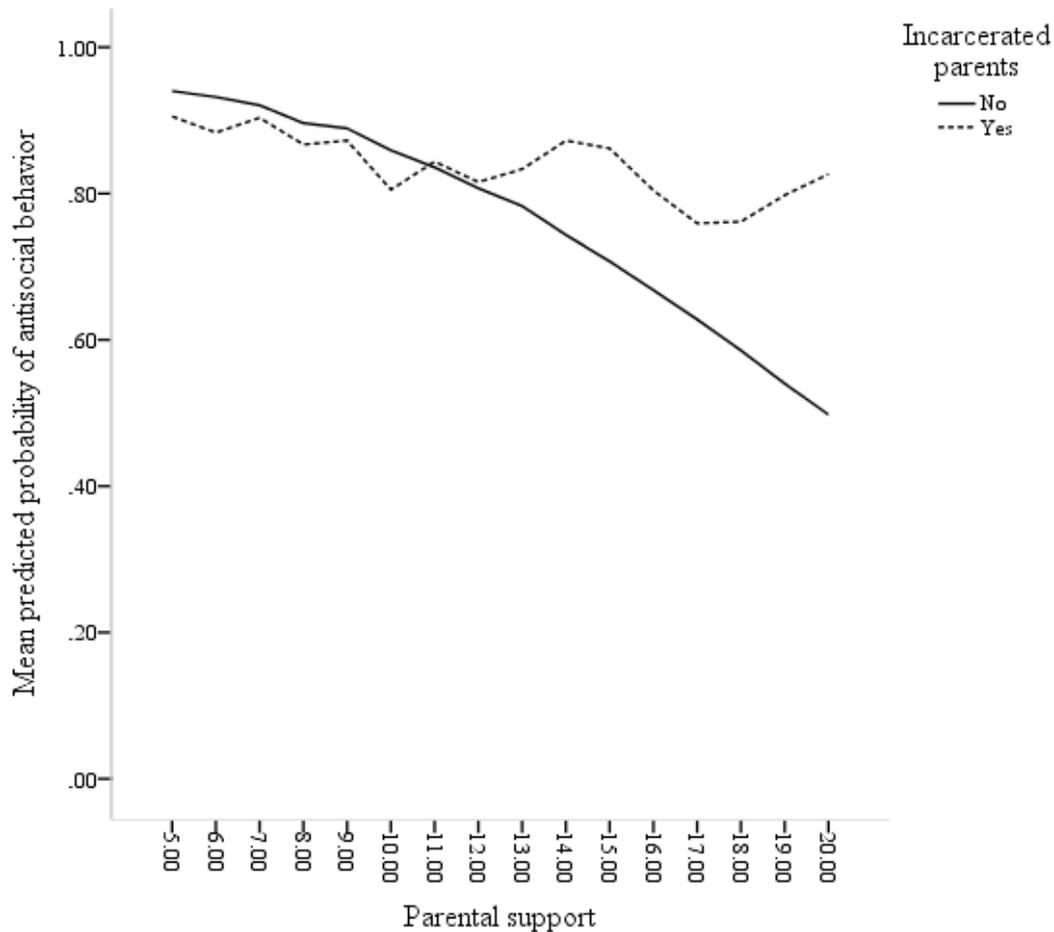
When the independent variable, parental incarceration, was added to the logistic regression model in block 2, the model was still statistically significant  $\chi^2(4, 9843) = 731.233, p < .001$  (see table 2). The odds of reporting antisocial behavior were 52,2% higher for children of formerly or currently incarcerated parents, compared to children whose parents had never been incarcerated ( $p = .026$ ).

When the independent variable, parental support, was added to the logistic regression model in block 3, the model was still statistically significant  $\chi^2(5, 9843) = 1124.641, p < .001$ , but children of formerly or currently incarcerated parents were no longer statistically more likely to report antisocial behavior, compared to their peers ( $p = .190$ ). Parental support was negatively related to antisocial behavior, indicating that the odds of reporting antisocial behavior were significantly lower if individuals had reported high parental support ( $p < .001$ ).

The interaction effect between parental incarceration and parental support was added to the model in block 4, as well as the interaction effect between parental incarceration and gender, the model was still significant  $\chi^2(7, 9843) = 1142.702, p < .001$ . The interaction effect was statistically significant between the children's reports on parental support and whether they have had an incarcerated parent or not, on their assessment on their antisocial behavior ( $p < .001$ ). That indicates that the association between parental support and antisocial behavior is not the same for children whose parents had been incarcerated, and children whose parents never went to prison (see figure 1). For children whose parents never went to prison, their predicted probability of antisocial behavior decreases as parental support increases. This was not the case for children whose parents had gone to prison. This implies that parental support is a protective factor for antisocial behavior in children whose parents

never went to prison, but not for children of formerly or currently incarcerated parents.

Parental support is a key factor in predicting children's antisocial behavior, although children of incarcerated parents seem to be an exception.



*Figure 1.* Students' predicted probability of antisocial behavior on average, based on whether they had incarcerated parents, and their report on parental support.

The interaction effect was not statistically significant between the children's gender and whether they have had an incarcerated parent or not, on their reports of antisocial behavior ( $p = .295$ ). That implies that the association between gender and antisocial behavior is similar for children whose parents had been incarcerated, and children whose parents had never been imprisoned.

### Discussion

The main goal of this research study was to examine if parental incarceration is a predictor for antisocial behavior in children of formerly and currently incarcerated parents in Iceland, and to examine if parental support works as a protective factor for antisocial behavior in these children. The hypotheses, based on previous research studies, were that parental incarceration was a predictor for antisocial behavior in children of formerly and currently incarcerated parents in Iceland, and that parental support would be a particularly strong protective factor for antisocial behavior in children of incarcerated parents.

Results supported the first hypothesis, the association between parental incarceration and antisocial behavior was consistent with previous research studies (Murray & Farrington, 2008; Murray et al., 2012; Myers et al., 1999). As Murray and Farrington (2008) concluded in their research study, results stated that children of incarcerated parents were about three times more likely to report antisocial behavior, compared to their peers. Before the control variables; gender, family violence and sexual abuse, were put in to the logistic regression model, the odds for children of formerly and currently incarcerated parents to report antisocial behavior were 3.3 times higher than for other children. The odds lowered after the control variables were added to the model, indicating that the control variables were associated with antisocial behavior as well as the parental incarceration. After the control variables were added to the model, the odds of children of incarcerated parents to report antisocial behavior were still 52.2% higher than for other children.

Children of incarcerated parents are more likely than other children to have been exposed to antisocial behavior, in the form of family violence, as has been stated in previous research studies (Allard & Greene, 2011; Johnson & Waldfogel, 2002). Consistent with previous research, results stated that physical and sexual abuse are prevalent for children of incarcerated parents (Greene et al., 2000). Children learn what they see and know, and the fact

that family violence is strongly associated with reporting antisocial behavior indicates that the children's antisocial behavior could be an imitation of their parents' behavior (Dallaire, 2007).

After parental support was added to the model, the odds for children of formerly and currently incarcerated parents to be more likely than their peers to show antisocial behavior, were no longer significant. This could indicate a lack of parental support for children of incarcerated parents, as children whose parents never went to prison reported significantly higher parental support than children of incarcerated parents. Based on these findings, it can be concluded that the parental incarceration itself only explains a small part of the likelihood of antisocial behavior, there seem to be various other factors that contribute to antisocial behavior for these children. This is consistent with previous research studies, that have stated that children of incarcerated parents are at an increased risk of showing antisocial behavior, although little is known about causal effect of parental incarceration on children (Myers et al., 1999). An example of a factor that might contribute to the antisocial behavior of children of incarcerated parents is parental absence. Parental incarceration is bound to separate children from their parents (Fritsch & Burkhead, 1981). Absence of a parent is expected to create a gap in children's experience because of the special role each parent plays in their child's life (Hoffman, 1971). It has been shown to increase the risk of problematic behavior on children's behalf, regardless of the cause of the separation (Fritsch & Burkhead, 1981). Teachers have rated sons of absent fathers more aggressive than sons of present fathers and research has shown that absence of fathers has negative effect on moral development in boys, this was not significant for girls (Hoffman, 1971). Demuth and Brown (2004) found that children of a single parent showed more aggression and delinquent behavior than their peers who lived with both parents. Adolescents who lived with a single father reported the highest level of aggression and delinquency. Because of previous traumatic experiences, it has been stated

that children of incarcerated parents are particularly vulnerable to the separation from a parent (Johnson, 1995).

Results did not support the second hypothesis, consistent with previous research studies, parental support appeared to be a strong protective factor for antisocial behavior, only not for children of formerly or currently incarcerated parents (Wills & Cleary, 1996). It is hard to determine the reason for parental support not being a protective factor for antisocial behavior in these children, but it could be further evidence for the fact that children learn of what they see and know, some parents could be providing parental support, despite their own antisocial behavior (Dallaire, 2007; Johnson & Waldfogel, 2002). It should be noted that it is not known where the reported parental support is coming from, if it is from the formerly or currently incarcerated parent, from the parent that is at home while the other one is or was incarcerated, or even from a foster parent.

There were a few weaknesses to this research study. The questionnaire presented to the participants was not designed for this study alone, it would have been stronger to be able to present a questionnaire specifically designed to examine the relationship between antisocial behavior and parental incarceration. That would have presented opportunities to ask appropriate background questions and further examine what it is that explains the relation between antisocial behavior and parental incarceration. It would also have given the opportunity to ask further about parental support and where the support was coming from. Such questionnaire could have included information about which parent was or had been incarcerated, the time of the parental incarceration, the duration of the incarceration, and possibly the type of crime the parent was incarcerated for. This would have provided the opportunity for examining behavior differences between these variables, for example if antisocial behavior differed between maternal and paternal incarceration. This was a cross-

sectional study, so there is no way of concluding a causal relation, it would have been stronger to be able to observe children of incarcerated parents over a specific amount of time.

There were also a few strengths to this research study. There are very few studies that examine children of incarcerated parents in Iceland and this is most likely the first research study that examines the relationship between antisocial behavior and parental incarceration, and the results give valuable information about children of formerly and currently incarcerated parents in Iceland. This is also the first research study in Iceland where an attempt is made to identify a protective factor for children of incarcerated parents. The results also give valuable information about factors that children of formerly and currently incarcerated parents have in common, such as likelihood of experiencing family violence and sexual abuse. Many participants took part in the study, it was a 10.783 participants' sample, and that is also a strength to this research study.

It has proven to be difficult to get reliable information about children of incarcerated parents and therefore there is lack of understanding of their wellbeing (Davis & Shlafer, 2017). This is because most data on incarcerated people is obtained by correction facilities, which rarely collect information on the inmates' parental status. Because of inadequate research on this vulnerable social group, much is yet to be discovered about children of incarcerated parents (Seymour, 1998). Parental incarceration affects many children worldwide, and it is important to discover and acknowledge the problems they could be facing. With a growing population of incarcerated parents, it is important to shed more light on their children's wellbeing. Studies on the matter have not been sufficient, and that gives the opportunity for many future studies. Future research should focus on getting more information about children of incarcerated parents, including their whereabouts, and aim to find out how to decrease the risk factors they are exposed to, or to pinpoint and increase protective factors. It is obvious that this will require a lot of research; a good start would be to

focus on their whereabouts and to pinpoint and increase protective factors. This could be done by including information about inmates' parental status in correction facilities and by comparing the quantity of antisocial behavior in children of incarcerated parents, with reference to common protective factors. It would also be interesting to examine adult children of incarcerated parents and see if the conclusions Woodward (2003) and Dallaire (2007) came to about the likelihood of adult children of incarcerated parents to be incarcerated themselves, apply in Iceland. This would help determine the importance of further research, by giving information about the magnitude and duration of the effects these children are facing. It would also provide information about how much it would benefit the society to step in at an early stage. Future research should also see if results can be generalized between countries, this could be done by doing research in various countries worldwide and comparing the results.

## References

- Allard, P., & Greene, J. (2011). *Children on the outside: Voicing the pain and human costs of parental incarceration*. Brooklyn, NY: Justice Strategies.
- Asgeirsdottir, B. B., Gudjonsson, G. H., Sigurdsson, J. F. & Sigfusdottir, I. D. (2010). Protective Processes for Depressed Mood and Anger Among Sexually Abused Adolescents: The Importance of Self-esteem. *Personality and Individual Differences*, 49(5), 402–407. doi: 10.1016/j.paid.2010.04.007
- Baker, L. A., Jacobson, K. C., Raine, A., Lozano, D. I. & Bezdjian, S. (2007). Genetic and Environmental Bases of Childhood Antisocial Behavior: A Multi-Informant Twin Study. *Journal of Abnormal Psychology*, 116(2), 219-235. doi: 10.1037/0021-843X.116.2.219
- Dallaire, D. H. (2007). Incarcerated Mothers and Fathers: A Comparison of Risks for Children and Families. *Family Relations*, 56(5), 440-456. doi: 10.1111/j.1741-3729.2007.00472.x
- Davis, L., & Schlafer, R. J. (2017). Mental health of adolescents with currently and formerly incarcerated parents. *Journal of Adolescence*, 54, 120-134. doi: 10.1016/j.adolescence.2016.10.006
- Demuth, S., & Brown, S. L. (2004). Family Structure, Family Processes, and Adolescent Delinquency: The Significance of Parental Absence versus Parental Gender. *Journal of Research in Crime and Delinquency*, 41(1), 58-81. doi: 10.1177/0022427803256236
- Fritsch, T. A., & Burkhead, J. D. (1981). Behavioral Reactions of Children to Parental Absence due to Imprisonment. *Family Relations*, 30(1), 83-88. doi: 10.2307/584240

- Geller, A., Garfinkel, I., Cooper, C. E., & Mincy, R. B. (2009). Parental Incarceration and Child Well-Being: Implications for Urban Families. *Social Science Quarterly*, 90(5), 1186-1202. doi: 10.1111/j.1540-6237.2009.00653.x
- Greene, S., Haney, C., & Hurtado, A. (2000). Cycles of Pain: Risk Factors in the Lives of Incarcerated Mothers and Their Children. *The Prison Journal*, 80(1), 3-23. doi: 10.1177/0032885500080001001
- Hoffman, M. L. (1971). Father Absence and Conscience Development. *Developmental Psychology*, 4(3), 400-406. doi: 10.1037/h0030983
- Johnson, D. (1995). Parent-Child Visitation in the Jail or Prison. In Katherine Gabel and Denise Johnson (Eds.), *Children of Incarcerated Parents*, 135-143. New York: Lexington Books.
- Johnson, E. I., & Waldfogel, J. (2002). *Children of incarcerated parents: Cumulative risk and children's living arrangements*. JCPR Working Paper 306. Chicago: Joint Center for Poverty Research, Northwestern University/University of Chicago.
- Kjellstrand, J. M., Cearley, J., Eddy, J. M., Foney, D., & Martinez Jr., C. R. (2012). Characteristics of incarcerated fathers and mothers: Implications for preventive interventions targeting children and families. *Children and Youth Services Review*, 34(12), 2409-2415. doi: 10.1016/j.childyouth.2012.08.008
- Miller, K. M. (2006). The Impact of Parental Incarceration on Children: An Emerging Need for Effective Interventions. *Child and Adolescent Social Work Journal*, 23(4), 472-486. doi: 10.1007/s10560-006-0065-6
- Murray, J., & Farrington, D. P. (2005). Parental imprisonment: effects on boys' antisocial behavior and delinquency through the life-course. *Journal of Child Psychology and Psychiatry*, 46(12), 1269-1278. doi: 10.1111/j.1469-7610.2005.01433.x

- Murray, J., & Farrington, D. P. (2008). The Effects of Parental Imprisonment on Children. In M. Tony (Ed.), *Crime and Justice: A review of research*, 37, 133-206. Chicago, IL: University of Chicago Press. doi: 10.1086/520070
- Murray, J., Farrington, D. P., & Sekol, I. (2012). Children's Antisocial Behavior, Mental Health, Drug Use, and Educational Performance After Parental Incarceration: A Systematic Review and Meta-Analysis. *Psychological Bulletin*, 138(2), 175-210. doi: 10.1037/a0026407
- Myers, B. J., Smarsh, T., Amlund-Hagen, K., & Kennon, S. (1999). Children of Incarcerated Mothers. *Journal of Child and Family Studies*, 8(1), 11-25. doi: 10.1023/A:1022990410036
- Pálsdóttir, H., Sigfússon, J., Þórisdóttir, I. E., Guðmundsdóttir, M. L., Kristjánsson, Á. L., & Sigfúsdóttir, I. D. (2014). *Ungt fólk 2014: Grunnskólar: Menntun, menning, félags-, íþrótt- og tómstundastarf, heilsa, líðan og vímuefnaneysla unglunga í 8., 9. og 10. bekk á Íslandi*. Rannsóknir & greining og Mennta- og menningamálaráðuneytið.
- Reed, D. F., & Reed, E. L. (1997). Children of Incarcerated Parents. *Social Justice*, 24(3), 152-169.
- Seymour, C. (1998). Children with Parents in Prison: Child Welfare Policy, Program and Practice Issues. *Child welfare*, 77(5), 469-493.
- Sigfusdottir, I. D., Farkas, G., & Silver, E. (2004). The Role of Depressed Mood and Anger in the Relationship Between Family Conflict and Delinquent Behavior. *Journal of Youth and Adolescence*, 33(6), 509-522. doi: 10.1023/B:JOYO.0000048065.17118.63
- Smith, C. A., & Stern, S. B. (2007). Delinquency and Antisocial Behavior: A Review of Family Processes and Intervention Research. *Social Service Review*, 71, 371-420. doi: 10.1086/604263

Wills, T. A., & Cleary, S. D. (1996). How Are Social Support Effects Mediated? A Test With Parental Support and Adolescent Substance Use. *Journal of Personality and Social Psychology, 71*(5), 937-952. doi: 10.1037/0022-3514.71.5.937

Woodward, R. (2003). *Families of prisoners: Literature review on issues and difficulties*. Canberra: Australian Government Department of Family and Community Services.