
**BSc in Psychology**

# The Prevalence of Anxiety and Depression Symptoms among Sexually Abused Adolescents in Iceland: The Importance of Protective Factors

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# Foreword

Submitted in partial fulfillment of the requirements of the BSc Psychology degree, Reykjavik University, this thesis is presented in the style of an article for submission to a peer-reviewed journal.

Abstract

The purpose of this study was to analyze the prevalence of anxiety and depression symptoms among sexually abused adolescents and the moderating effects of protective factors, such as self-esteem and social support. The data used in this study were collected in 2014 by Icelandic Centre for Social Research and Analysis (ICSRA). Participants were 2509 Icelandic elementary students in 8th, 9th, and 10th grade and there were 1226 males and 1258 females. The results showed that depression and anxiety symptoms were higher if adolescents were sexually abused compared to those who were not sexually abused. Self-esteem and parental support had moderating effect on the relationship between CSA and symptoms of anxiety and depression whereas higher self-esteem and higher parental support had stronger effect on symptoms of depression and anxiety for sexually abused adolescents rather than those who were not sexually abused. Clinical psychologist could use these results to enhance their treatment with sexually abused adolescents and their parents, whereas good and supportive relationship from their parents is important for their mental health.

*Keywords:* child sexual abuse, anxiety, depression, self-esteem, parental support

Útdráttur

Tilgangur þessarar rannsóknar var að skoða algengi einkenna kvíða og þunglyndis meðal unglinga eftir kynferðisofbeldi og áhrif verndandi þátta, eins og sjálfstraust og foreldrastuðnings á sambandið milli kynferðisofbeldis og einkenna þunglyndis og kvíða. Gögnin fyrir rannsóknina voru fengin frá Rannsóknum og Greiningu. Þátttakendur voru 2509 íslenskir grunnskólanemendur í 8, 9 og 10 bekk og þar af voru 1226 drengir og 1258 stúlkur. Niðurstöðurnar sýndu að einkenni þunglyndis og kvíða voru hærri hjá þeim sem höfðu upplifað kynferðisofbeldi samanborið við þá sem höfðu ekki upplifað slíka reynslu. Sjálfstraust og foreldrastuðningur höfðu mótandi áhrif á sambandið milli kynferðisofbeldis og einkenna kvíða og þunglyndis, þar sem hærra sjálfstraust og meiri foreldrastuðningur hafði sterkari áhrif á einkenni kvíða og þunglyndis hjá þeim sem höfðu upplifað kynferðisofbeldi heldur en hjá þeim sem höfðu ekki upplifað kynferðisofbeldi. Sálfræðingar geta hagnýtt þessar niðurstöður í meðferð unglinga sem hafa verið kynferðislega misnotaðir og foreldra þeirra, þar sem stuðningur og gott samband frá foreldrum stuðlar að betri andlegri líðan unglinga sem hafa orðið fyrir kynferðisofbeldi.

Child sexual abuse (CSA) is defined as the involvement of a child in sexual activity that it does not understand or is unable to give consent to (Murray, Nguyen, & Cohen, 2014). Disclosures of CSA increased significantly in the decades after 1970, but before that disclosures of CSA were rare (Putnam, 2003). Studies have shown that sexual abuse in childhood is more common in women than in men (Weiss, Longhurst, & Mazure, 1999). One study found that the prevalence of CSA was 7.9% for men and 16.8% for women (Gorey & Leslie, 1997) but, a more recent study showed that 3-29% of men and 7-36% women disclosed CSA at some point in their lives (Pereda, Guilera, Forns, & Gómez-Benito, 2009). There are some factors that can increase the risk for CSA, but girls are at a 2.5 to 3 times higher risk than boys and the risk rises with age (Finkelhor, 1993). There are approximately one-third of girls and one-seventh of boys that are sexually abused before the age of 18 (Bolen & Scannapieco, 1999).

Studies have shown that stressful experiences such as CSA have a negative effect on adolescents mental health, but victims of CSA are at an increased risk of having psychological problems, such as symptoms of anxiety and depression, compared to individuals who have not been sexually abused (Murray et al., 2014; Pereda et al., 2009; Penza, Heim, & Nemeroff, 2003), and these problems often persist into adulthood (Hobfoll et al., 2002). Studies have shown that hypothalamic-pituitary-adrenal (HPA) axis and hyperactivity in the nervous system is a consequence of CSA that results in symptoms of anxiety and depression (Weiss et al., 1999; Heim, 2000). The HPA axis is the major neuroendocrine stress response system or in other words it is the system that responds to stressful situations. There is a high comorbidity between anxiety and depression, whereas if adolescents have symptoms of anxiety they are also likely to have symptoms of depression (Van Ameringen, Mancini, & Farvolden, 2003). Depression and anxiety can have devastating impacts on individuals, such as people's efficiency in life and increase the risk of suicide

(Penza et al., 2003). These negative effects of CSA differ depending on factors such as duration of the abuse, use of force, relationship to the perpetrator and age when the abuse occurred (Merrill, Thomsen, Sinclair, Gold, & Milner, 2001).

Anxiety disorders are pervasive among children and adolescents, but 8-12% children and adolescents suffer from anxiety that disturbs their daily life function (Muris, Dreessen, Bogels, Weckx, & Melick, 2004). Anxiety is defined as a state of behavior, physiologic and cognition with symptoms such as uncontrollable worries, difficulty concentrating, irritability and tense muscles (Dobson, 1985). Numerous studies have identified CSA as a risk factor for developing anxiety (Maniglio, 2013; Cougle, Timpano, Sachs-Ericsson, Keough, & Riccardi, 2010; Mermen & Meadow, 1994). Stein, Golding, Siegel, Burnam, & Sorenson (1988) found that 28% of CSA victims suffered from symptoms of anxiety compared with 9% of non-abused individuals. They also concluded that the lifetime prevalence of anxiety disorders was 37% for victims of CSA but 14% for the control group. Maniglio (2013) suggested CSA as a risk factor for developing symptoms of anxiety, regardless of gender of the victim and severity of the abuse.

Studies have also identified CSA as a risk factor for developing depression (Putnam, 2003; Maniglio, 2010). Depression is defined as a state of behavior, physiologic and cognition and the symptoms are avoidance, withdrawal and sadness (Dobson, 1985).Women are more likely than men to be sexually abused in childhood and studies have shown that women with a history of CSA are likelier to show more symptoms of depression than sexually abused men (Weiss et al., 1999). Lifetime prevalence of depression among sexually abused women is three to five times higher than in women without such history (Putnam, 2003). Kendall-Tackett, Williams, & Finkelhor (1993) examined the impact of sexual abuse on children and adolescents and found that the most common psychological problem for adolescents was depression. Another study found that women who were sexually abused had

higher symptoms of depression, compared to the comparison group (Mermen & Meadow, 1994) and a more recent study found that depression was a common consequence after history of CSA (Maniglio, 2009).

Not all sexually abused children and adolescents develop psychological symptoms (Kendall-Tackett et al., 1993). Individuals who do not develop psychological symptoms after CSA are likelier to have a higher resilience, but resilience is defined as a good psychological outcome in individuals in spite of having suffered a stressful experience at some point in their lives (Rutter, 2006). Bronfenbrenner's Ecological Theory is a framework that consist of multiple systems, proximal and distant processes (Bronfenbrenner, 1979). The proximal processes are environmental effects or interactions with individuals but parental support, which serves as a protective factor, is an example of proximal processes in Bronfenbrenner's Ecological Theory (McClure, Chavez, Agars, Peacock, & Matosian, 2008). Protective factors have the function of protecting against psychological symptoms in sexually abused adolescents which enhances their mental health and they are likelier to become resilient where they are better equipped to cope with stressful experiences later in life (Luthar, Cicchetti, & Becker, 2000).

There are numerous studies that have examined protective factors, such as parental support, as a moderating effect on the relationship between CSA and the symptoms of anxiety and depression. Parental support has been defined as emotional support from parents or the quality of relationships (Golding, Wilsnack, & Cooper, 2002). One study found that more parental support was related to lower depression symptoms in adolescents (Feiring, Taska, & Lewis, 1998). Another more recent study concluded that there was an interaction effect between parental support and symptoms of depression whereas more parental support was related to lower depression symptoms for sexually abused adolescents and those who were not sexually abused, but it was stronger for sexually abused adolescents (Asgeirsdottir,

Gudjonsson, Sigurdsson, & Sigfusdottir, 2010). These findings suggest that parental support predicts a decreased possibility of depressed mood among sexually abused adolescents. Another study found interaction effects between parental support and symptoms of anxiety, that more parental support was related to fewer anxiety symptoms for sexually abused adolescents and those who were not sexually abused, but it was stronger for sexually abused adolescents (Cohen & Mannarino, 2000). Testa, Miller, Downs, & Panek, (1992) found that women who received good social support after CSA had fewer psychological symptoms.

There are few studies that have examined self-esteem as a moderating effect on the relationship between CSA and the symptoms of anxiety and depression. Self-esteem has been defined as individuals positive or negative evaluation of his or her self and how much they appreciate themselves (Blascovich & Tomaka, 1991). Self-esteem is shaped by social experiences from early childhood and through adolescence (Rutter, 1987). Studies suggest that self-esteem is a protective factor against psychological symptoms for sexually abused children and adolescents (Kliewer & Sandler, 1992). Asgeirsdottir et al. (2010) examined the importance of self-esteem in sexually abused adolescents and the results showed that low self-esteem was a strong predictor of depression among adolescents with a history of CSA. Kim, Park, & Park (2017) found similar results but, they examined the relationship of sexual abuse with self-esteem and depression in Korean adolescents and found that sexually abused adolescents showed lower self-esteem and higher symptoms of depression. These findings demonstrate moderating effect, that higher self-esteem predicts fewer symptoms of depression among sexually abused adolescents and those who were not sexually abused, but it was stronger for sexually abused adolescents. Another study found similar results that sexually abused females experienced higher symptoms of depression and anxiety and lower self-esteem, which demonstrates that higher self-esteem predicted lower symptoms of depression and anxiety (Mermen & Meadow, 1994). Studies have suggested that higher self-

esteem is important for adolescents to feel resilient after sexual abuse, such that they are stronger than they were before the abuse (Jonzon & Lindblad, 2006).

This current study will examine the prevalence of anxiety and depression symptoms among sexually abused adolescents and the importance of protective factors such as parental support and self-esteem. Control variables, such as family structure and poor financial status, are used to control for other effects in psychological symptoms (Hamilton, Noh, & Adlaf, 2009). It is hypothesized that sexually abused adolescents experience more anxiety and depression symptoms rather than those who are not sexually abused. It is also hypothesized that protective factors, such as parental support and self-esteem, have a moderating effect on the relationship between CSA and anxiety and depression symptoms, such that it weakens the relationship.

## Method

### Participants

The participants in this study were Icelandic elementary students in 8th, 9th, and 10th grade in all Icelandic elementary schools where children are 14, 15 and 16 years old. The total number of participants were 11.013 students and the total response rate was 86.3%. A random sample ($N = 2509$) was used for this study, there were 1226 males (48.9%) and 1258 females (50.1%), but there were 25 participants that did not report their gender. The participants did not get paid for the participation and they were told that they were not obligated to participate in the study. The populations that the results were generalized to were Icelandic elementary students.

### Measures

There were two control variables which were family structure and poor financial status. The dependent variables in this study were anxiety and depressed mood and the independent variables were child sexual abuse, parental support and self-esteem.

**Family structure.** Family structure was assessed with a question of whether participants lived with both biological parents (both parents = 1) or in other family arrangements (other = 0). There were more items, but they were combined together. There were 66.1% adolescents that live with both their biological parents.

**Poor financial status.** The financial status of the participants family was measured with questions of how financially stable their family was compared to other families in Iceland. The answers ranged on an ordinal scale from 1 to 7 where higher score indicated lower financial status (1 = "much better off", 2 = "quite better off", 3 = "a bit better off", 4 = "similar", 5 = "a bit worse off", 6 = "quite worse off", 7 = "much worse off").

**Depressed mood.** To measure depressed mood, there were nine items from the depression dimension from Derogatis, Lipman, Covi, and Rickels (1971) used, which is a reliable and valid measure (Beck, Steer, & Carbin, 1988). The participants were asked how often during the last week the following statements applied to them: for example, "I was sad or had little interest in doing things". The items were rated on an ordinal scale from 1 = "never", 2 = "seldom", 3 = "sometimes" to 4 = "often" where higher score means more depression symptoms. The items were combined into a scale ranging from 9 to 36. Cronbach's alpha for depressed mood was .92 ($M$ = 15.33, $SD$ = 6.92).

**Anxiety.** To measure symptoms of anxiety, there were three anxiety items used from the Symptom Distress Checklist (Derogatis, 1971), which is a reliable and valid measure (Cyr, McKenna-Foley, & Peacock, 1985). The participants were asked how often during the last week the following statements applied to them: "I was nervous", "I was suddenly scared without any reason" and "I was tense". The items were rated on an ordinal scale from 1 = "never", 2 = "seldom", 3 = "sometimes" to 4 = "often" where higher score indicated more anxiety. The items were combined into a scale ranging from 3 to 12. Cronbach's alpha for anxiety was .81 ($M$ = 5.03, $SD$ = 2.39).

**Child sexual abuse (CSA).** To measure child sexual abuse, participants were asked if they had been sexually abused in the last 30 days, in the last 12 months or more than 12 months by either grown-ups or someone at the same age. If they had been sexually abused at any time in their lives they got the value 1 and if not, they got the value 0. There were 4.6% participants that were sexually abused.

**Parental support.** To measure parental support, participants were asked how easy or difficult it was for them to get warmth and caring, discussions about personal affairs and advice regarding their education or other projects from their parents. The items were rated on a scale from 1 = "very difficult", 2 = "rather difficult", 3 = "rather easy", to 4 = "very easy" where higher score indicated more support. The items ranged from 5 – 20. Cronbach's alpha for parental support was .89 ($M$ = 17.54, $SD$ = 3.06).

**Self-esteem.** To measure self-esteem nine items from the Rosenberg Self-Esteem Scale was used (Rosenberg, 1965), which is a reliable and valid measure (Sinclair et al., 2010). Participants were asked question concerning their self-esteem for example: "I feel like I am decent like others" and "I have many good qualities". The answers were rated on an ordinal scale which was recoded and ranged from 1 = "strongly disagree", 2 = "rather disagree", 3 = "rather agree" to 4 = "strongly agree" where the highest value indicated more self-esteem. Cronbach's alpha for self-esteem was .88 ($M$ = 28.38, $SD$ = 6.06).

## Procedure

The data was collected in February in 2014 in all Icelandic elementary schools on the same day. The Icelandic Centre of Social Research and Analysis (ICSRA) at Reykjavik University was responsible for the study. The teachers submitted a questionnaire to all students that were present on the day of the research. With every questionnaire there was a blank envelope that the participants could put the questionnaire at the end of the study. The participants were told that they should not write their names or social security number on the

questionnaire. They were requested to answer all the questions conscientiously and ask for help if needed.

**Data analysis**

The program used to analyze the data was the Statistical Package for the Social Sciences (SPSS). The statistical methods that were used in this study were descriptive statistics, correlation and linear regression. The Process tool for SPSS was used to get moderating effects with regression. The assumption of the sample size was confirmed whereas the sample was 2509 participants. The assumption that the dependent variable should be continued was confirmed. The assumption that the independent variables should be on ordinal scale, ratio scale or interval scale was confirmed whereas they were all on ordinal scale. The assumption that the measurements of the dependent variables should be independent was confirmed whereas the measurements between students are independent. The assumption that all independent variables that matter or are significant should be in the study was confirmed. The assumption of linearity between independent and dependent variables was confirmed. The assumption of multicollinearity with independent variables was confirmed whereas tolerance was higher than 0.1 and variance inflation factor (VIF) was lower than 5 which is good. The assumption of homogeneity of dependent variable was confirmed. The assumption of normality of the dependent variables, depression and anxiety, was not confirmed. The assumption of independent errors between two measurements on the dependent variables was confirmed.

## Results

Table 1 shows that participants had low depression symptoms ($M$ = 15.33) and also low anxiety symptoms ($M$ = 5.03). However, they had high parental support ($M$ = 17.54) and high self-esteem ($M$ = 28.38). There were 4.6% ($N$ = 115) sexually abused adolescents.

Table 1

*Descriptive Statistics for Depression, Anxiety, Parental Support and Self-esteem*

| | *N* | *M* | *SD* | Minimum | Maximum |
|---|---|---|---|---|---|
| Depression | 2393 | 15.33 | 6.92 | 9 | 36 |
| Anxiety | 2419 | 5.03 | 2.39 | 3 | 12 |
| Parental support | 2432 | 17.54 | 3.06 | 5 | 20 |
| Self-esteem | 2336 | 28.38 | 6.06 | 9 | 36 |

*Note*. *N* = Number of participants; *M* = Mean; *SD* = Standard Deviation

It was hypothesized that sexually abused adolescents experienced more anxiety and depression symptoms rather than those who were not sexually abused. It was examined with correlation. Table 2 shows that there was a positive relationship between sexual abuse and symptoms of depression and anxiety which means that sexually abused adolescents had more symptoms of depression and anxiety rather than those who were not sexually abused. The hypothesis was confirmed. Table 2 also shows that there was a negative relationship between sexual abuse and parental support and self-esteem which means that sexually abused adolescents had lower parental support and lower self-esteem.

Table 2

*Correlations for the Variables*

| | Depression | Anxiety | Parental support | Self-esteem |
|---|---|---|---|---|
| Sexual abuse | .205** | .202** | -.185** | -.195** |
| Depression | | .711** | -.395** | -.632** |
| Anxiety | | | -.263** | -.477** |
| Parental support | | | | .396** |

*Note*. ** = $p$ <.001

There was a positive relationship between depression and anxiety which means that those who had symptoms of depression also had symptoms of anxiety. There was a negative relationship between mental health variables, anxiety and depression, and parental support and self-esteem which means that if participants had symptoms of depression and anxiety, they had lower parental support and lower self-esteem. There was a positive relationship between parental support and self-esteem which means that those who got parental support had higher self-esteem.

It was also hypothesized that protective factors, such as parental support and self-esteem had a moderating effect on the relationship between CSA and anxiety and depression symptoms, such that it weakened the relationship. It was examined through Process tool in SPSS with regression. It was controlled for control variables, such as family structure and poor financial status. The interaction effects between sexual abuse and self-esteem were significant ($p$ = < .001) for depression symptoms after controlling for family structure and poor financial status. Figure 1 indicates that higher self-esteem showed lower depression symptoms for both sexually abused adolescents and those who were not sexually abused, but it was stronger for sexually abused adolescents. The hypothesis was confirmed.

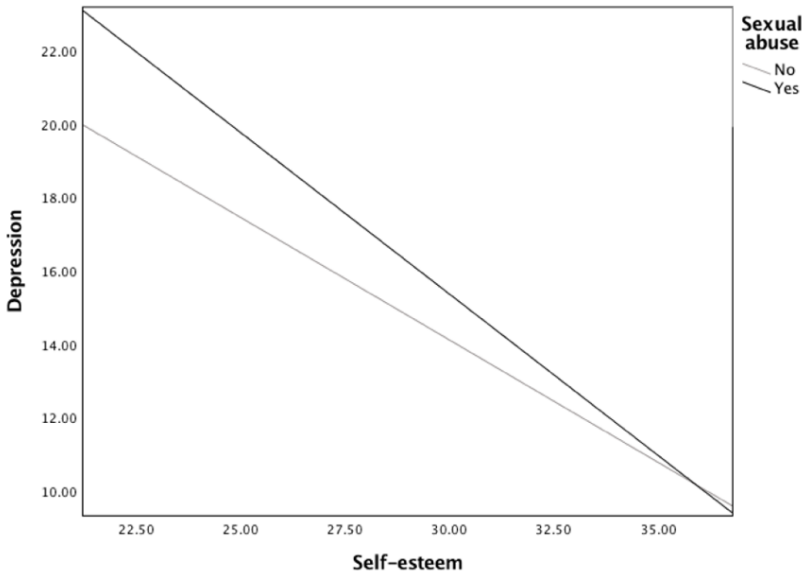


*Figure 1*. The Means for Self-esteem on Depression for Sexually Abused Adolescents.

The interaction effects between sexual abuse and self-esteem were significant ($p$ = <.001) for anxiety after controlling for family structure and poor financial status. Figure 2 indicates that higher self-esteem showed lower anxiety symptoms for sexually abused adolescents and those who were not sexually abused, but it was stronger for sexually abused adolescents. The hypothesis was confirmed.

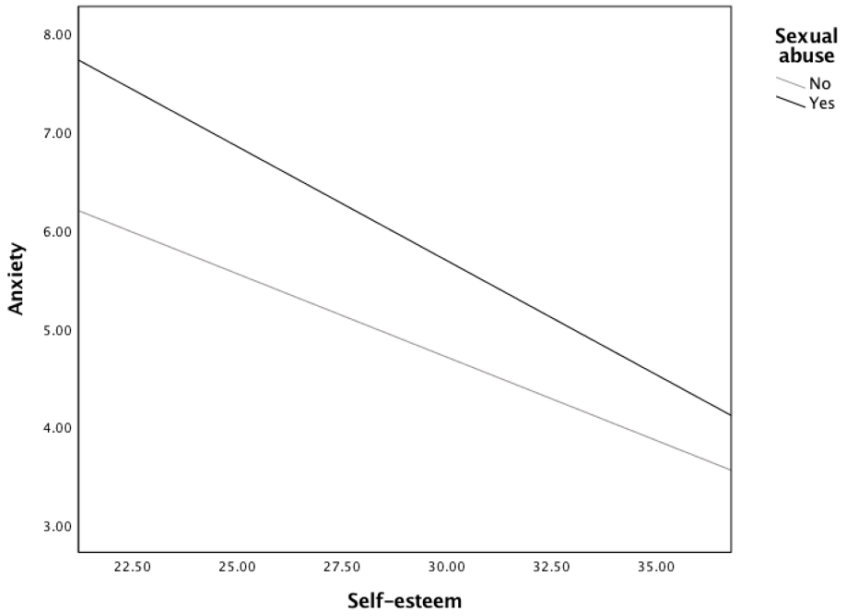


*Figure 2*. The Means for Self-esteem on Anxiety for Sexually Abused Adolescents.

The interaction effects between parental support and sexual abuse were significant for depression ($p$ = <.001), but not for anxiety ($p$ = .172) after controlling for family structure and poor financial status. The findings showed that higher parental support was related to lower depression and anxiety symptoms for sexually abused adolescents and those who were not sexually abused, but it was stronger for sexually abused adolescents. The hypothesis was partially confirmed.

## Discussion

The aim of this study was to examine the prevalence of anxiety and depression symptoms among sexually abused adolescents and the importance of protective factors such as parental support and self-esteem. It was hypothesized that sexually abused adolescents

experience more anxiety and depression symptoms rather than those who are not sexually abused. The findings indicate that the hypothesis was confirmed which means that those who experience CSA are more likely to experience symptoms of depression and anxiety rather than those who are not sexually abused. Results from other studies support these findings. Murray et al. (2014) found that victims of CSA are at an increased risk of having psychological problems, such as anxiety and depression, compared to individuals who have not been sexually abused. One study suggested CSA as a risk factor for developing anxiety disorders (Maniglio, 2013) and another study found that depression was a common consequence after CSA (Maniglio, 2009).

The conclusions for these results may be that dysfunction in hypothalamic-pituitary-adrenal (HPA) axis results in symptoms of depression and anxiety after CSA (Penza et al., 2003). The HPA axis is the major neuroendocrine stress response system or in other words it is the system that responds to stressful situations. Heim (2000) found that early life stress, such as CSA, was related to HPA abnormalities in individuals. The study also found that there was an increased adrenocorticotropic hormone (ACTH) in women with a history of CSA and with current depression symptoms. There were also increased pituitary-adrenal and autonomic responses to stress in women that were sexually abused and had symptoms of both anxiety and depression. This suggests that HPA axis and hyperactivity in the nervous system is a consequence of CSA that results in symptoms of anxiety and depression. Further conclusions are that these findings underline the importance of treatments for sexually abused children and adolescents to reduce their symptoms of depression and anxiety (Maniglio, 2009). The findings also underline that by preventing the occurrence of CSA it will decrease the prevalence of psychological symptoms, such as anxiety and depression while enhancing children's and adolescent's mental health. It is important for individuals with a history of

CSA to do an early intervention to decrease the risk of psychological problems and to monitor their symptoms carefully if they appear.

It was also hypothesized that protective factors, such as parental support and self-esteem, have a moderating effect on the relationship between CSA and anxiety and depression symptoms, such that it weakens the relationship. The findings indicate that the hypothesis is confirmed which means that self-esteem and parental support have a buffering effect on the relationship between CSA and symptoms of depression and anxiety, that is CSA has no longer a negative effect on mental health in sexually abused adolescents. Findings from other studies support these results. Feiring et al. (1998) and Asgeirsdottir et al. (2010) found interaction effects between parental support and symptoms of depression and concluded that more parental support was related to lower symptoms of depression among sexually abused adolescents and those who were not sexually abused, but it was stronger for sexually abused adolescents. Another study found interaction effects between parental support and symptoms of anxiety, that higher parental support was related to fewer symptoms of anxiety in individuals with a history of CSA (Cohen & Mannarino, 2000). Asgeirsdottir et al. (2010) found interaction effects between self-esteem and symptoms of depression, that higher self-esteem in sexually abused adolescents predicted fewer symptoms of depression. Another study found similar results that higher self-esteem demonstrated lower symptoms of depression and anxiety in sexually abused women and those who were not sexually abused, but it was stronger for sexually abused women (Mermen & Meadow, 1994).

The conclusions for these findings may be that by increasing parental support for sexually abused adolescents they can have higher self-esteem which will protect against symptoms of anxiety and depression (Maniglio, 2009). These results underline the importance of good and supportive emotional relationship between parents and sexually abused adolescents and the importance of higher self-esteem which will enhance adolescent's

mental health. When sexually abused adolescents have symptoms of anxiety and depression, their self-esteem can decrease and therefore parents and psychologist should enhance their self-esteem by supporting them. Bronfenbrenner's Ecological Theory suggests that the environment effects, such as parental support, has a buffering impact on psychological symptoms, such that the symptoms decrease (McClure et al., 2008; Luthar et al., 2000).

There were a few limitations to this study. One limitation is that the data are only from students in 8th, 9th and 10th grade in elementary school and the results are therefore not representative for all students or a larger population. There were only 4.6% or 115 students who had been sexually abused which is lower than usual (Weiss et al., 1999) and therefore only few students that the results can be generalized on. One possible reason for this low ratio of sexual abuse can be that this is a sensitive question on a self-reported questionnaire, but self-reported questionnaires can make the answers inaccurate. The participants were students that were present in school on the day of the study and then not all students who answered the questionnaire. There were also important strengths to this study. The gender ratio was equal, or 48.9% males and 50.1% females. The response rate was high or 86.3% and the sample in this study was big or 2509 participants which shows a higher reliability. All participants answered the questionnaire on the same day, they got the same instructions and the answers were anonymous.

Future studies could perform a long-term study to analyze causality with participants in different age and the prevalence of depression and anxiety symptoms after history of CSA. It can be interesting to examine other psychological effects of CSA on individuals, such as anger, substance abuse or post-traumatic stress disorder (PTSD). Since in this study were only Icelandic elementary students, it can be useful to examine individuals with different backgrounds and differences between genders to check for different outcomes. It can be useful to examine a bigger sample and the effects on individuals after they disclose their

experience of sexual abuse to others and the relationship to social support. Future studies can also examine different treatments for individuals after sexual abuse, how long they take and how affective they are on symptoms of depression and anxiety.

In conclusion, this study found that sexually abused adolescents experience more anxiety and depression symptoms rather than those who were not sexually abused. Also, protective factors, such as parental support and self-esteem, had a moderating effect on the relationship between CSA and anxiety and depression symptoms, such that it weakened the relationship. Self-esteem and parental support had a buffering effect or a protective effect on the relationship between CSA and symptoms of depression and anxiety, that is CSA had no longer a negative effect on adolescent's mental health. Clinical implications of the results are that psychologist could use these results to enhance their treatment with sexually abused adolescents and their parents, whereas good and supportive relationship from their parents is important for their mental health and treatment outcome. When adolescents get good emotional support from their parents, they get higher self-esteem which reduces their psychological symptoms after sexual abuse. It is also important to prevent abuse of children and adolescents to get better mental health outcome and to do an early intervention to decrease the risk of psychological problems. These results add to our knowledge about the importance of protective factors, such as self-esteem and parental support, on symptoms of anxiety and depression in sexually abused adolescents.

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