The association between family structures and depressive symptoms among children

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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 aim of this study was to examine whether family structures affected children’s depressed mood when time spent with parents was controlled as a covariate variable. It was also examined whether different family structures had an effect on depressed mood and whether it varied by gender. A random sample of 2075 participants was drawn from the population-wide cross-sectional data from the 2015 “Youth in Iceland” study. The participants were students in 5th, 6th and 7th grade. The results showed gender difference, with boys having lower depressed mood than girls, irrespective of family structure. The results indicate that those who live in a single parent household show a more depressed mood than those who live in intact families and shared physical household. There were a significant main effects between family structure and depressed mood when controlling for time spent with parents.

Keywords: Family structure, gender, depressed mood, intact family, shared physical custody, single parent household

Abstract - Icelandic


Lykilorð: Fjölskyldumynstur, kyn, depurðareinkenni, kjarnafjölskylda, jöfn búseta, ein斯塔tt foreldri
Association between family structures on depressive symptoms

**Depressive symptoms and gender difference**

There is indication that one of the most prevalent mental health problems among adolescents is increased depressive symptoms (Dayananda & Pillai, 2014). In recent years depression has increased significantly among adolescents and threatens their mental health and wellbeing (Mahmoud, Staten, Hall, & Lennie, 2012). Children with depression often show a lack of interest in activities that they previously enjoyed, they criticize themselves, and are pessimistic or hopeless about the future. Depressed children can feel sad or irritable and tend to lack energy and have problems with sleep (Hazell, 2002). Research has shown a gender difference in the frequency of depressive symptoms, with the gender difference first appearing in the age range eleven to fourteen years old (Kessler, 2003). At that time, the frequency of depression seems to increase more with girls than boys. It is estimated that from early adolescence to adulthood women are twice as likely to experience depression as men (Nolen-Hoeksema, 2001).

A study by Genuchi and Mitsunaga (2015) showed no gender difference in depressive symptoms, but a number of other researchers have shown a difference between genders (Avison & McAlpine, 1992; Nolen-Hoeksema, 2001). It is suggested that women have a lower threshold when evaluating depressive symptoms (Piccinelli, 2000). Research by Avison and Mcalpine (1992) found that gender difference in depressive symptoms might be due to higher levels of self-esteem among men. However, it was also suggested that other psychosocial resources and the relationship between parent and child contribute to gender difference in depressive symptoms.

**Depressive symptoms, family structure and time spent with parents**

The traditional family structure has undergone a period of increased social change over the last fifty years. The nuclear family with a mother, father and their children is
becoming less common, with a growing number of single-parent families and stepfamilies (Mangleburg, Grewal, & Bristol, 1999). Following these social changes there has been much debate about which living arrangements are best for children’s wellbeing (Lee, 2002; Levin & Currie, 2010). Some advocates focus on children’s need for stability with one dominant parent, while other advocates focus on children’s need to have a relationship with both parents (Lee, 2002). Joint custody has increased significantly since the 1970s. Joint custody is an arrangement that refers to shared physical custody, where children spend equal time with both parents or shared legal custody, where children have primary residence with one parent (Bauserman, 2002). Shared physical custody promotes children to maintain a close and good relationship with both parents (Bauserman, 2002; Carlsund, Eriksson, & Sellström, 2013).

Researchers has suggested that living with both parents is a better environment for children’s development than living with a single parent (Amato & Keith, 1991; Chiappori & Weiss, 2007; Manning & Lamb, 2003). Other researchers maintain that children living with single parents experience less wellbeing than children living with two biological parents (Brown, 2004; Nævdal & Thuen, 2004). It has also been suggested that living in two different homes can increase stress and have a detrimental effect on the social network of the children. It has been assumed that living in two homes requires a lot of flexibility from children, especially if parents live far away from each other. In spite of these findings, some studies show no association between wellbeing and custody arrangement (Kline, Tschann, Johnston & Wallerstein, 1989; Sodermans & Matthijs, 2014).

Children who communicate regularly with their parents seem to experience greater wellbeing and closeness to both parents, not depending on where they live (Amato & Keith, 1991; Kelly, 2007). Social support from the family has been shown to predict depressive symptoms (Romero, Riggs, & Ruggero, 2015). Adolescents with depressive symptoms
experience less support from parents and have more disputes with their parents than children who do not experience depressive symptoms (Sheeber, Davis, Leve, Hops, & Tildesley, 2007). Frequency of contact with parents does not predict the quality of contact. When children feel loved and cared for by their parents, their sense of emotional safety increases. Emotional safety helps children to cope with stress and reduces the risk of developing depression (Amato & Gilbreth, 1999).

Children in single parent families are considered to spend less time with their parents than children in two parent families (Sandberg & Hofferth, 2001). A study by Asmussen and Larson (1991) supported this assumption, showing that adolescents who live with single mothers spent 20% fewer daily non-school hours with parents than those who live in two parent families.

This study was designed to investigate whether family structure affected children’s depressed mood when time spent with parents was controlled as a covariate variable. It also examined whether different family structure affected depressed mood and whether it varied by gender. Different forms of family structure were divided into three groups: children living with both parents, children living in shared physical custody and children living with a single parent. The hypotheses are that: 1) Girls report higher levels of depressive symptoms than boys in all family structures. 2) Boys and girls who live in a single parent household experience higher level of depressive symptoms than those living with both parents. 3) Boys and girls who live in a single parent households experience a higher level of depressive symptoms than those who live in shared physical custody. 4) There is a significant effect of family structure on depressed mood when controlling for time spent with parents.
Method

Participants

The data, which was used to estimate family structure and children’s depressed mood, came from the Icelandic survey “Youth in Iceland 2015”. In the total sample there were valid responses from 10917 students, in 5th to 7th grade, with a response rate of 85.5% of potential participants. There were 5454 girls and 5392 boys, and 71 students did not disclose their gender. This study used a random sample with a total of 4028 students, 1999 boys and 2029 girls, and 25 students did not disclose their gender. In 5th grade there were 1396 students, in 6th grade were 1341, and 1273 in 7th grade. Responses from 43 students were not categorized by grades. Because of the varying size of groups of family structure it was decided to take a random sample of 998 from the intact family group. The total sample contained 2075 participants, 1066 boys and 1004 girls, and 5 students did not disclose their gender. In 5th grade were 693 students, in 6th grade were 697, and 673 in 7th grade. Responses from 12 students were not categorized by grades.

Instrument and Measures

The measuring instrument was a questionnaire that contained 55 questions relating to life and living conditions. The questionnaire was developed by the Icelandic Center for Social Research and Analysis (ICSRA) (Margrét Lilja Guðmundsdóttir et al., 2015). The questions used in the present study focused on family structure, depressed mood and time spent with parents (see appendix A, p 20-21). Students in 5th, 6th and 7th grade in elementary schools in Iceland participated in the survey. Four variables were used in this study. The independent variables were different forms of custody and gender. The dependent variable was depressed mood. The covariate variable was time spent with parents.

Family structure. Family structure was measured with the question: “Who lives in your home?”. The responses were split into three groups: children who live with both parents
(intact family), children who live alternately with their parents (shared physical custody), and children who live with one parent (single parent). The data included 998 children living in an intact family situation and those were coded 1. There were 466 living in a shared physical custody and were coded 2. The data also contained information about 611 children living with either a mother or a father and those were coded 3.

*Time spent with parents.* To measure time spent with parents, the participants were asked how well the following statements applied to them: “How often do you spend time with your parents outside school time on a weekday” and “how often do you spend time with your parents during weekends”. The response scales were: 0 (Never), 1 (almost never), 2 (seldom), 3 (sometimes) and 4 (often). The scale for each response was reduced from the original data from 1-5 down to 0-4. Answers were combined into a scale from 0-8, with Cronbach’s $\alpha = .46$.

*Gender.* To measure gender the participants were asked whether they were a boy or a girl. The response scales were 1 (boy) and 2 (girl).

*Depressed mood.* To measure depressed mood, participants were asked how often they experienced the following statements in the last seven days: “You were sad or showed little interest in doing things”, “you had low appetite”, “you felt lonely”, “you cried easily or you wanted to cry”, “you had difficulties falling to sleep or staying asleep”. The response scales were: 0 (never), 1 (almost never), 2 (seldom), 3 (sometimes), 4 (often). Higher scores represent a higher level of depressive symptoms. The scale for each response was reduced from the original data from 1-5 down to 0-4. Answers were combined into a scale from 0-20, with Cronbach’s $\alpha = .80$.

**Procedure**

The questionnaires were sent to all elementary schools in Iceland, where teachers submitted them to the students. All students who attended class the day of the survey
participated in the research. With each questionnaire there was an unmarked envelope where students were to place their questionnaire when they had finished. Participants were not to write their name or identification number on questionnaires or the envelopes so it would be impossible to trace the answers to individual students. Participants were asked to answer all the questions the best they could, and ask for help if they needed it. A letter was sent home to the parents notifying them of the conduct of the survey. The parents let the school know if their child was not to participate in the survey. The ICSRA was authorized by Data Protection Authorities to conduct the research because the participants were under age.

**Statistical analysis**

The software SPSS was used to analyze the data in this study. The two-way factorial ANOVA was used to examine whether the effects of various family structures on depressed mood were varied by gender. The two-way factorial ANOVA was also used to examine whether family structure and gender had an effect on the depressed mood. The ANCOVA (analysis of covariance) was used to examine whether family structure affected depressed mood while time spent with parents was set as a covariate variable.

**Results**

Table 1 shows the descriptive statistic for the categorical variables in this study. The table includes the number of participants and the percentage for groups in family structure and gender.
Table 1

**Descriptive statistic for variables used**

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>2070</td>
<td>100 %</td>
</tr>
<tr>
<td>Boys</td>
<td>1066</td>
<td>51.5 %</td>
</tr>
<tr>
<td>Girls</td>
<td>1004</td>
<td>48.5 %</td>
</tr>
<tr>
<td>Family structure</td>
<td>2075</td>
<td>100 %</td>
</tr>
<tr>
<td>Who live in your home</td>
<td>2075</td>
<td>100 %</td>
</tr>
<tr>
<td>I live with both parents</td>
<td>998</td>
<td>48.1 %</td>
</tr>
<tr>
<td>I live alternately with both parents</td>
<td>466</td>
<td>22.5 %</td>
</tr>
<tr>
<td>I live mostly with my mom, not dad</td>
<td>395</td>
<td>19 %</td>
</tr>
<tr>
<td>I live mostly with my dad, not mom</td>
<td>51</td>
<td>2.5 %</td>
</tr>
<tr>
<td>I live with my mom and her partner</td>
<td>149</td>
<td>7.2 %</td>
</tr>
<tr>
<td>I live with my dad and his partner</td>
<td>16</td>
<td>0.8 %</td>
</tr>
</tbody>
</table>

Table 2 includes the mean, standard deviation and number of participants for the dependent variable and the covariate variable.

Table 2

**Descriptive statistic for variables used**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Range</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressed mood</td>
<td>0-20</td>
<td>1964</td>
<td>4.34</td>
<td>4.50</td>
</tr>
<tr>
<td>Time spent with parents</td>
<td>0-8</td>
<td>2060</td>
<td>6.83</td>
<td>1.30</td>
</tr>
</tbody>
</table>

Table 3 shows the descriptive statistics for family structure by gender. Girls who live in single parent households had the highest mean levels of depressed mood. Boys who live in an intact family had the lowest mean level of depressed mood. Girls showed higher mean levels compares to boys in all family structures.
Table 3

Descriptive statistics showing mean levels of depressed mood, standard deviation and number in each group, by family structure and gender

<table>
<thead>
<tr>
<th>Family structure</th>
<th>N</th>
<th>Mean</th>
<th>Std. deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intact family</td>
<td>478</td>
<td>3.41</td>
<td>3.78</td>
</tr>
<tr>
<td>Shared physical custody</td>
<td>233</td>
<td>3.67</td>
<td>3.99</td>
</tr>
<tr>
<td>Single parent</td>
<td>295</td>
<td>4.85</td>
<td>4.61</td>
</tr>
<tr>
<td>Total</td>
<td>1006</td>
<td>3.89</td>
<td>4.13</td>
</tr>
<tr>
<td>Girls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intact family</td>
<td>473</td>
<td>4.35</td>
<td>4.67</td>
</tr>
<tr>
<td>Shared physical custody</td>
<td>200</td>
<td>5.02</td>
<td>4.92</td>
</tr>
<tr>
<td>Single parent</td>
<td>282</td>
<td>5.46</td>
<td>4.94</td>
</tr>
<tr>
<td>Total</td>
<td>955</td>
<td>4.82</td>
<td>4.83</td>
</tr>
</tbody>
</table>

To test the effects of the independent variables on the dependent variable a two-way ANOVA was used. Gender showed significant main effects on depressed mood, $F(1, 1955) = 20.818, p < .001, \eta^2 = .011$. Family structure showed significant main effects on depressed mood, $F(2, 1955) = 14.808, p < .001, \eta^2 = .015$. There was no interaction effect between gender and family structure on depressed mood, $F(2, 1955) = .862, p = .422, \eta^2 = .001$. The Bonferroni post hoc test was used to see if there were any differences between groups of family structure on depression. The Bonferroni post hoc test indicates there is a significant difference between two groups of family structure on depressed mood. Those who live in an intact family showed less depressed mood than those who live in single parent household ($p < .001$). Those who live in shared physical custody showed less depressed mood than those who live in single parent household ($p = .013$).

Analysis of covariance (ANCOVA) was used to examine the effects of family structure and gender on depressed mood when controlling for time spent with parents as a
covariate variable. The covariate, time spent with parents, was significantly related to depressed mood, $F(1, 1942) = 29.095, p < .001, \eta^2 = 0.015$. There was a significant effect of gender on depressed mood after controlling for the effect of time spent with parents, $F(1, 1942) = 22.463, p < .001, \eta^2 = .011$. There was also a significant effect of family structure on depressed mood after controlling for the effect of time spent with parents, $F(2, 1942) = 12.124, p < .001, \eta^2 = .012$. The $b$-value for the covariate variable was negative so the covariate and the outcome variable have a negative relationship. That means that more time with parents decreases the depressive symptoms.

Table 4 shows the mean levels for the independent variables, family structure and gender, on depressed mood after controlling for time spent with parents. Those who live in single parents households had higher mean levels on depressed mood than those who live in intact families and in shared physical custody. Girls had higher mean levels on depressed mood compared to boys.

Table 4

\begin{table}
\centering
\begin{tabular}{llrr}
\hline
 & Family structure & Mean & 95\% CI \\
\hline
 & Intact family & 3.91 & 3.63 & 4.19 \\
 & Shared physical custody & 4.37 & 3.96 & 4.79 \\
 & Single parent & 5.07 & 4.71 & 5.43 \\
Gender & Boys & 3.95 & 3.67 & 4.24 \\
 & Girls & 4.95 & 4.65 & 5.25 \\
\hline
\end{tabular}
\end{table}
Figure 1. Estimated marginal means for depressed mood by family structure and gender.

Figure 1 shows the mean levels on depressed mood by gender and family structure when time spent with parents is controlled as a covariate variable. There was no interaction effect between gender and family structure on depressed mood after controlling for time spent with parents, \( F(2, 1942) = .827, p = .437, \eta^2 = .001 \). Boys who live in an intact family had the lowest mean level of depressed mood and girls in a single parent household had the highest mean level of depressed mood. The boys have lower depressed mood than girls in all the three family structure. The gender difference was greatest for the group in shared physical custody.

Testing the assumption of homogeneity of regression slopes revealed that the interaction between gender and time spent with parents was significant and therefore the assumption has been broken, \( F(1, 1941) = 8.864, p = .003, \eta^2 = .005 \).

Discussion

The main focus of this study was to examine whether family structure affected children’s depressed mood when time spent with parents was controlled as a covariate
variable. It was also examined whether different family structures had an effect on depressed mood and whether it was varied by gender.

The first hypothesis was that girls would report higher levels of depressive symptoms in all family structures. The results showed that girls reported higher mean levels on depressed mood in all family structures. These findings are supported from further research that women are twice as likely to experience depression as men (Nolen-Hoeksema, 2001).

The second hypothesis was that those who live in single parent household experience a depressed mood more often than those who live in an intact family. The results showed a significant difference between these two groups. The finding indicates that those who live in a single parent household experience more depressed mood than those who live in an intact family. The third hypothesis stated that those who live in single parent household experience depressed mood more often than those who live in shared physical custody. The result for the second hypothesis was also supported. It indicates that children who live in a single parent household experience more depressive symptoms rather than children in an intact family and in shared physical custody. These findings are in line with previous research, which suggested that living in an intact family is a better environment for children’s development (Amato & Keith, 1991; Chiappori & Weiss, 2007; Manning & Lamb, 2003).

The fourth hypothesis stated that there would be significant effect of family structure on depressed mood controlling for time spent with parents. The results showed that there was a significant effect of family structure on depressed mood when controlling for time spent with parents. It supports the hypothesis that the effect between family structure and depressed mood is controlled by time spent with parents. The results also revealed that as you spend more time with parents the depressive symptoms decreases. Previous research had found that children who communicate regularly with their parents seem to experience greater wellbeing
and closeness to both parents, not depending on where they live (Amato & Keith, 1991; Kelly, 2007).

There are a few limitations in this study. In the questionnaire it is assumed that the students who answered that they live in single parent household understand that the parent is single and does not live with a partner. However, it is not possible to assume that there is no one else who lives in the home. It is expected that the students understand that the parent is single. The participants are young adolescents, at the age range ten to thirteen, and may misunderstand some questions and answer options. The questionnaire is also self-reported, and therefore there is the possibility of misunderstanding of questions. The scale for the depressive symptoms question was 7 items in total, but this study only used 5 items of the scale. It was considered that the two items that were taken out should not occur in this study.

The main strength of this study regards the collection of the data. The collection of the data was conducted efficiently and took place at all elementary schools at the same time. The conditions were similar, where all participants took the survey in classrooms in their schools where there should be silence. Therefore there is reason to be confident about the reliability of the data. The questionnaire was anonymous and therefore it would be impossible to trace the answers to individual students.

In future research, it would be possible to look further at the relationship between family structure and depressed mood after controlling for time with parents among young adolescents. There are not many science articles that cover young adolescents and the relationship between family structure and depressed mood after controlling for time spent with parents.
References


Appendix A

1. Ert þú strákur eða stelpa?
   □ Strákur  □ Stelpa

4. Hverjir búa heima hjá þér? (Merktu aðeins í EINN reit)
   □ Ég bý hjá bánum foreldrum mínun
   □ Ég bý nokkurn veginn jafnt til skiptis hjá pabba og mómmu
   □ Ég bý aðallega hjá mómmu en ekki pabba
   □ Ég bý aðallega hjá pabba en ekki mómmu
   □ Ég bý hjá mómmu og sambýlismanni/sambýliskonu hennar
   □ Ég bý hjá pabba og sambýliskonu/sambýlismanni hans
   □ Ég bý hjá öðrum en mómmu og pabba

7. Hversu oft ert þú með foreldrum þínum eftir skóla? (Merktu aðeins í einn reit)
   □ Aldrei
   □ Næstum aldrei
   □ Sjaldan
   □ Stundum
   □ Oft

8. Hversu oft ert þú með foreldrum þínum um helgar? (Merktu aðeins í einn reit)
   □ Aldrei
   □ Næstum aldrei
   □ Sjaldan
   □ Stundum
   □ Oft
46. Hefur þú fundið fyrir einhverju af þessu hér að neðan sjóustu sjó daga? (Merktu í einn reit í hverjum lið).

<table>
<thead>
<tr>
<th>Næstum</th>
<th>Aldrei</th>
<th>aldrei</th>
<th>Sjóðan</th>
<th>Stundum</th>
<th>Oft</th>
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<td>a)</td>
<td>Þú varst leiður eða hafðir</td>
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<td>b)</td>
<td>Þú hafðir litla matarlyst ........</td>
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<td>c)</td>
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