BSc in Psychology

The Gender Difference of Medication on Distress Symptoms in Adolescents with and Without ADHD

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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
This study was conducted to examine the effects of attention deficit hyperactivity disorder (ADHD) on distress symptoms in adolescents at the age of 12 – 17 years ($M=14.98$, $SD=.83$). Gender differences between the groups were also examined and whether medicine intake for the disorder had an effect on distress symptoms in adolescents diagnosed with ADHD. The Icelandic Centre for Social Research and Analysis provided the data for this study with 2,989 participants, thereof 1,471 (49.2%) boys and 1,492 girls (49.9%), 26 (.9%) participants did not reveal their gender. A total of 440 individuals were diagnosed with ADHD, while 2,510 were not, and 39 participants did not respond to that question. The results showed that adolescents diagnosed with ADHD experienced more distress symptoms than adolescents without ADHD did. In addition, there was a gender difference between the groups; girls with ADHD experience significantly more distress symptoms than boys with ADHD do. Medicine intake also had a significant decreasing effect on distress symptoms. These results suggest that individuals with ADHD might experience more pressure from the environment, and as a result, more distress symptoms.

Útdráttur
Þessi rannsókn var framkvæmd til þess að athuga áhrif athyglisbrests og ofvirkniröskunar (ADHD) á kvíða- og þunglyndiseinkenni ungmenna á aldrinum 12 – 17 ára ($M=14.98$, $S=0.83$). Einnig var athugaður kynjamismunur á milli hópanna og hvort lyfjagjöf við röskuninni hafði áhrif á kvíða- og þunglyndiseinkenni hjá ungmennum með ADHD. Gögn til rannsóknarinnar voru fengin frá Rannsóknnum og greiningu með 2989 þátttakendum alls, þar af voru 1471 (49,2%) strákar og 1492 (49,9%) stelpur en 26 (0,9%) gáfu ekki upp kyn sitt. Af þeim þátttakendum sem fengir voru með slembiúrtaki voru 440 einstaklingar greindir með ADHD, 2510 voru ekki greindir og 39 einstaklingar svöruðu ekki. Niðurstöður rannsóknarinnar leiddu í ljós að það er marktækur munur á kvíða- og þunglyndiseinkennum hjá ungmennum með og án ADHD. Ungmenni með ADHD upplifðu meiri kvíða- og þunglyndiseinkenni heldur en ungmenni sem ekki höfðu röskunina. Einnig var kynjamunur á milli hópanna, stelpur með ADHD upplifður marktækt meiri kvíða- og þunglyndiseinkenni heldur en strákar með ADHD. Lyfjagjöf við ADHD röskuninni hafði einnig marktæk áhrif á aukin kvíða- og þunglyndiseinkenni þátttakendanna. Þessar niðurstöður benda til þess að einstaklingar með ADHD finna líklega fyrir meiri þrýsting frá umhverfinu og upplifa þá meiri kvíða- og þunglyndiseinkenni vegna þess.
The Gender Difference of Medication on Distress Symptoms in Adolescents with and Without ADHD

Attention deficit hyperactivity disorder (ADHD) is a neurobehavioral disorder which can have a large impact on a person’s well-being, social interactions and academic achievements, especially for children and young adolescents (Wolraich et al. 2011). This neurobehavioral disorder is one of the most frequently missed psychiatric diagnosis in adults and adolescents, because its symptoms usually impersonate those of other well-known disorders (Chao et al. 2008). Assessment, treatment and recognition of patients with psychological problems has increased over the past 15 years (Ross et al. 2011). ADHD is more common among boys than girls (Feldman & Reiff, 2014; Horn, Wagnee & Ialongo, 1989; Øie et al. 2016; Bauermeister et al. 2007) and it can be linked to both anxiety and depression (Cho et al. 2008; Chao et al. 2008).

The results of a study by Ostrander, Crystal and August (2006), showed that there was a strong connection between having ADHD and signs of depression, in both younger and older aged children. The results also showed that in the later part of childhood, children often developed a more complex relationship between depression and ADHD. It has been shown that girls are more likely than boys to develop anxiety disorders while boys are more likely to have mood disorders (Hartung et al. 2003).

Findings from a recent study (Meinzer et al. 2014) indicate that ADHD and depression are associated with each other, and children and adolescents diagnosed with ADHD can be more vulnerable to depression, especially if their family has a history of depression. They also found that children and adolescents with ADHD have a risk of maintaining that depression into adulthood, which can affect their lives in a negative way. The risk of depression can be reduced with continued and successful treatment or some kind of “depression prevention programs” that would be incorporated within the ADHD treatment program.

The results of a study conducted by Huei-Fan Hu, Wen-Jiun Chou and Cheng-Fang Yen (2016), showed that individuals with ADHD, that had been bullied, showed more severe symptoms
of depression and anxiety than individuals that had not been victims of bullying. Children with ADHD often experience rejection by their peers or classmates and social difficulties are a very common thing among these children. Therefore, it is critical to develop and strengthen peer relationships because dealing with conflict, negotiation and cooperation skills are very important factors for effective social functioning in children’s lives. In addition, once a child is “labeled” ADHD by their classmates or peers, it can trigger a negative process for the child and it will possibly, suffer more harsh treatment by their peers (Hoza, 2007).

Children who have a comorbidity of anxiety and ADHD have more difficulties with daily functioning and behavior than children that do not have anxiety. Children with ADHD often have anxiety and it is unsure how it can affect these children’s lives (Sciberras et al. 2014). In a study conducted in 2004 (Newcorn et al. 2004), the authors examined comorbidity of ADHD and anxiety disorders in 32 adolescent males at the age of 15 – 18 years who all had their ADHD diagnosis between the ages of 7 – 11 years. The results indicated that comorbid anxiety in children with ADHD predict social and anxiety problems for adolescents.

It has been shown by Hui-Nien, Yueh-Ming, Li-Kuang and Shur-Fen (2013) that children who have persistent ADHD may have a co-occurrence with anxiety and depression, which might later, influence their quality of life. The severity of anxiety and depression symptoms, as well as ADHD, had significant medication effect. Children, who have ADHD, anxiety- and depression symptoms, may be at risk of lower quality of life in adulthood. Both adult ADHD, anxiety- and depression symptoms significantly mediated the connection between quality of life and childhood ADHD.

Children, who show more symptoms of ADHD at a young age, show more symptoms of anxiety than other children do. Preschool aged children that have ADHD symptoms, were reported to show 33% more anxiety symptoms (Overgaard, Aase, Torgersen & Zeiner, 2016).

According to Charach and Fernandez (2013), there is a safe and effective medication treatment available for children, adolescents and adults that show ADHD symptoms. The treatment
is recommended for these core symptoms such as inattention, impulsiveness and hyperactivity, which can have a negative effect on children and adolescents’ ability to study. Although many adolescents have improved their daily functioning, many individuals do not continue with this medication treatment into adult life (Charach & Fernandez, 2013). The risk of depression symptoms in children, adolescents and adults was lower for longer periods of ADHD medication intake. The occurrence of depression in ADHD diagnosed adolescents was 20% lower while receiving ADHD medication, in comparison to the period where the adolescent did not receive any medication. ADHD medication was linked to a reduced risk for concurrent and ensuing depression (Chang et al. 2016).

As a result of a recent study conducted by Snircova, Marcinakova-Husarova, Hrtanek, Kulhan, Ondrejka and Nosalova (2016), it was found that comorbid anxiety in ADHD diagnosed children lowered significantly with medication intake.

Jensen and Steinhausen (2015) found that boys with ADHD were at a higher risk for developing neuropsychiatric disorders, such as Alzheimer’s or Parkinson’s disease, whereas the girls with ADHD had more problems with internalizing disorders, such as anxiety or depression. They also found a significant difference between genders regarding the period when the diagnosis took place, girls were often diagnosed much later than boys were. Girls were also at more risk of developing other comorbid disorders, such as eating disorders and react to relentless stress, while the boys were at more risk of developing comorbid conduct-, tic-, autistic spectrum-, and other developmental disorders. Boys with ADHD have a more common problem with school suspension than girls with ADHD, and they are also more likely to develop mood disorders than girls (Bauermeister et al. 2007).

Gender has been shown to be an important moderating factor when examining impulsivity between girls and boys (Hasson & Fine, 2012), but no difference was found with inattention within the genders. In addition, a great gender difference has been shown in behavior among young adolescents, especially among boys with and without ADHD, where the difference was significantly
larger than among girls with and without ADHD. Girls with ADHD suffer significantly more of interpersonal functioning deficits than girls without ADHD do (Greene et al. 2001).

The purpose of this study was to see if gender, ADHD and medication intake had any effect on distress symptoms, a combination of anxiety- and depression symptoms, in adolescents. There were three hypotheses in the study, first was to see if adolescents with ADHD diagnosis experienced more distress symptoms than individuals that did not have ADHD. Secondly, it was hypothesized that there was a gender difference between the groups on experiencing distress symptoms. The third hypothesis was to see if ADHD medication intake had any effect on adolescents’ distress symptoms.

Method

Participants

This research is based on data from a recent study that was done by The Icelandic Centre for Social Research and Analysis (Rannsóknir & greining) in February of 2016. The participants in total were 10,557 students, in every elementary school in Iceland, at the age of 12 to 17 years. Only students that attended school that day could participate in this research. Valid answers from students in 8th grade were 3,478, from students in 9th grade were 3,507 and from the students in 10th grade were 3,572 valid answers. Out of all the answers that were received, 130 students did not complete the question about which grade they were in. The total response rate nationwide was 86.0%.

Rannsóknir & greining sent a questionnaire to every elementary school in Iceland, for students in 8th to 10th grade, where the teachers had strict instructions on how to distribute and describe the questionnaire to the students. With every questionnaire came a blank envelope to put the out filled questionnaire into when the participants have finished filling them out. No participants were received payment for their participation in this research and participation was not mandatory. If anyone would experience inconvenience at any time, or would like to stop participation while answering the questionnaire, they could stop immediately without any consequence.

In this study, there were 2,989 randomly selected adolescents at the age of 12 – 17 years
(M= 14.98, SD= .83), there were 1,471 boys, 1,492 girls and 26 participants did not reveal their gender, furthermore see Table 1 below.

Table 1. Gender ratio.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>1,471</td>
<td>49.2%</td>
<td>49.2%</td>
</tr>
<tr>
<td>Girls</td>
<td>1,492</td>
<td>49.9%</td>
<td>99.1%</td>
</tr>
<tr>
<td>Missing</td>
<td>26</td>
<td>.9%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Instruments and Measures**

The instrument used in this research was a questionnaire that was designed and developed by Rannsóknir & greining that have been making questionnaires to keep track of young students in Iceland since the year 1998. The questionnaire used in this study, from February 2016, contained 88 questions in various lengths, on 31 pages.

In this study, four questions were used, in various lengths. The first question enquired the participants about their gender where the possibilities were measured or coded as 1 = “boy”, 2 = “girl” (Appendix A). The participants were asked if they had ever been diagnosed with ADHD (Appendix B), and they were also asked whether or not they were receiving medication for their ADHD disorder (Appendix C). In both of these questions the possible answers were coded as 1 = “yes” and 2 = “no”.

The distress symptom scale was made from the 13-item depression and anxiety scale SCL-90, a multidimensional self-report symptom scale (Derogatis, Lipman & Covi, 1973), and computed into one variable. The participants answered to 13 statements in total, and were asked how often throughout the previous week any of the following statement related to them (Appendix D). The participants had to answer the following statements: c) felt nervous, d) felt a sudden fear without any reason, e) felt uptight, f) felt sad and/or uninterested in doing anything, g) had little appetite, h) felt lonely, i) cried easily or wanted to cry, j) had a difficult time falling asleep or staying asleep, k)
felt down or sad, l) did not show any excitement in doing anything, m) felt weak or slow, n) felt as if the future was hopeless, and o) thought about suicide. Their responses ranged from 0 = “never”, 1 = “seldom”, 2 = “sometimes”, and 3 = “often”. The total scores of this variable ranged from 0 – 39. Cronbach’s alpha for the 13-item distress scale was 0.716.

The lowest score on the distress scale was 0 and the highest score was 39 ($M = 9.57, SD = 9.40$). The most frequent value was from 0 – 7, where 53.9% of the participants scores. Out of the remaining participants, there were 36.5% that scored from 8 – 24 on the distress symptom scale, and the total percent of participants that scored from 0 – 24 were 90.4%. The last remaining participants, or 9.6%, scored from 25 to 39 points. The median value was seven. It can be interpreted from this that adolescents that scored from 0 – 7, experienced a normal amount of distress whereas the adolescents that scored from 8 – 24 on the scale experienced fairly more distress. The adolescents that scored the highest on the scale, from 25 – 39, experienced a great deal of distress.

**Procedure**

Rannsóknir & greining conducted the study *Ungt fólk 2016* and were in charge of distributing a questionnaire to every elementary school in Iceland where the teachers from each school received them and were in charge of posing the questionnaire for the students. The questionnaire was printed on paper and the teachers of each school were in charge of distributing the questionnaire to each student in 8th to 10th grade that attended school that particular day the research was held. The students were noticed about the research and their parents or guardian were asked to inform the school or Rannsóknir & greining if a student would not be participating in the research (Appendix E).

Before handing out the questionnaire, the teachers asked the participants to read information about the questionnaire, where they were informed not to write anything on the paper that could possibly be traced back to them in any way. This research was supposed to be anonymous. The participants were also asked to answer the questions the best they could and be truthful in their
answers. The students could also ask for help from their teachers if anything was somehow unclear. The questionnaire contained 88 questions, in various lengths, on 31 pages. After the students filled out their questionnaire, they put it in a white envelope, sealed it shut, and gave it to their teacher. When all the questionnaires had been turned in, the teachers send the data to Rannsóknir & greining in Reykjavík University to be analyzed.

**Design and Data Analysis**

The design of this research was cross-sectional and there were three independent variables. The first independent variable was ADHD diagnosis, used as a predicting factor for distress symptoms in adolescents. The second independent variable, gender, was to see if gender had any effect on distress symptoms in adolescents that were diagnosed with ADHD. The third independent variable, ADHD medication, was used to examine whether ADHD medication had any effect on distress symptoms in adolescents with ADHD. The dependent variable in this study were distress symptoms.

The statistics program IBM SPSS 22 was used to show descriptive statistics and inferential statistics. A multiple regression analysis was used to predict if distress symptoms in adolescents would be affected, based on ADHD diagnosis, gender and medication intake. The assumptions of the multiple linear regression were tested to see what affect the independent variables had on the dependent variable. First, a test was performed that was descriptive of the sample and received tables that showed average and standard deviation. The correlation between variables was examined using the Pearson correlation factor and the Kolmogorov-Smirnov test assessed the assumption of normality on the dependent variable. Level of significance was at $\alpha = .05$ for all tests that were conducted.

The assumption of homoscedasticity was broken whereas heteroscedasticity was in the residuals. That can lead to the significance level and the F value becomes unstable. The assumption for normality is not broken, even though there is a positive skew in the normality distribution.
Results

The participants in this study were 2,989 in total. The hypothesis was to see if gender, ADHD and medicine intake had an effect on distress symptoms among adolescents. Level of significance was at $\alpha = .05$ for all tests that were conducted. A multiple linear regression was used for examining the results of the distress symptoms, based on ADHD diagnosis, gender and medicine intake.

There were 2,950 valid answers from the participants that responded to the question regarding their ADHD diagnosis, 440 (14.7%) participants were diagnosed with ADHD, 2,510 (84.0%) participants were not, and 39 (1.3%) participants did not answer the question about the diagnosis. Participants that said they were taking medication for their ADHD diagnosis were 231 (7.7%) and 2,722 (91.1%) said they were not taking any medicine. There were 36 (1.2%) participants that did not answer the question. There were 1,492 (49.9%) girls and 1,471 (49.2%) boys, while 26 (.9%) participants did not reveal their gender. As shown in Table 2 below, 2,816 (94.2%) participants answered the questions about their distress symptoms, while 173 (5.8%) participants did not. The minimum score that could be obtained from the distress scale was zero and the highest score was 39 ($M= 9.57$, $SD= 9.40$).

Table 2. Descriptive Statistics of the Dependent Variable.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distress</td>
<td>9.57</td>
<td>9.40</td>
<td>.00</td>
<td>39</td>
<td>2,816</td>
</tr>
</tbody>
</table>

As Table 3 shows, there is a correlation between the dependent variable and all the independent variables in this study. The strongest correlation is between ADHD and medicine intake, $r(2774) = .65$, $p < .05$. There is also a positive correlation between distress and gender, $r(2774) = .29$, $p < .05$. The correlation between distress and ADHD is negative, $r(2774) = -.17$, $p < .05$ and the correlation between distress and medicine intake is also negative, $r(2774) = -.13$, $p < .05$. 
Table 3. The Correlation between the Variables in This Study.

<table>
<thead>
<tr>
<th></th>
<th>Distress</th>
<th>ADHD</th>
<th>Medicine intake</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distress</td>
<td>1</td>
<td>-.17**</td>
<td>-.13**</td>
<td>.29**</td>
</tr>
<tr>
<td>ADHD</td>
<td>-.17**</td>
<td>1</td>
<td>.65**</td>
<td>.08**</td>
</tr>
<tr>
<td>Medicine intake</td>
<td>-.13**</td>
<td>.65**</td>
<td>1</td>
<td>.10**</td>
</tr>
<tr>
<td>Gender</td>
<td>.29**</td>
<td>.08**</td>
<td>.10**</td>
<td>1</td>
</tr>
</tbody>
</table>

$p < .01**$

As shown in Table 4 below, gender, $\beta = .312$, $t(2781) = 17.39$, $p < .05$ had a stronger effect on adolescents’ distress symptoms than medicine intake, $\beta = -5.81$, $t(2781) = -9.06$, $p < .05$. Gender also explained a significant 8.7% of variance in the adolescents’ distress symptom scores, $R^2 = .087$, $F(1, 2797) = 16.33$, $p < .05$. A significant part, or 1.8%, of the variance in the distress symptom score was explained by medicine intake, $R^2 = .018$, $F(1, 2799) = -.13$, $p < .05$.

Table 4. The Effect of Gender and Medicine Intake on Distress Symptoms.

<table>
<thead>
<tr>
<th></th>
<th>$B$</th>
<th>Std. Error</th>
<th>$\beta$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>11.91</td>
<td>1.29</td>
<td></td>
<td>$p &lt; .05$</td>
</tr>
<tr>
<td>Medicine intake</td>
<td>-5.81</td>
<td>.64</td>
<td>-.16</td>
<td>$p &lt; .05$</td>
</tr>
<tr>
<td>Gender</td>
<td>5.85</td>
<td>.336</td>
<td>.312</td>
<td>$p &lt; .05$</td>
</tr>
</tbody>
</table>

Table 5 below shows that ADHD significantly predicted the adolescents’ distress symptoms, $\beta = 4.77$, $t(2798) = -.17$, $p < .05$, and also explained a significant 3.2% of the variance in distress symptoms score, $R^2 = .032$, $F(1, 2798) = -9.64$, $p < .05$.

Table 5. The Effect of ADHD on Distress Symptoms.

<table>
<thead>
<tr>
<th></th>
<th>$B$</th>
<th>Std. Error</th>
<th>$\beta$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>18.42</td>
<td>.93</td>
<td></td>
<td>$p &lt; .05$</td>
</tr>
<tr>
<td>ADHD</td>
<td>4.77</td>
<td>.49</td>
<td>-.17</td>
<td>$p &lt; .05$</td>
</tr>
</tbody>
</table>
According to the tables here above, the distress symptoms increase if the individual has an ADHD diagnosis, also there is a gender difference on distress symptoms. Medicine intake seemed to increase the participants’ distress symptoms.

It was predicted that ADHD, gender and medication intake had a significant effect on the individuals’ distress symptoms. The participants’ score on the distress symptom scale decreased 4.32 points when ADHD was not present and the score decreased 2.06 points with medicine intake among adolescents who had ADHD. Females also scored 5.90 points higher on the distress symptom scale than males. All three independent variables, ADHD, gender and medicine intake were significant predictors of distress symptoms in adolescents.

Concluding the results it can be said that ADHD, gender and medicine intake explain 12.9% of the variance of distress symptoms, $R^2 = .129$, $F(3, 2774)= 137.251$, $p < .05$.

**Discussion**

It has been shown that ADHD has an effect on anxiety- and depression symptoms in adolescents (Cho et al. 2008; Chao et al. 2008), and is more commonly found in boys than girls (Feldman & Reiff, 2014; Horn, Wagnee & Ialongo, 1989; Øie et al. 2016; Bauermeister et al. 2007). It can also have a large impact on a person’s daily life, well-being, academic achievements and social interactions, especially for children and young adolescents (Wolraich et al. 2011).

Children who show more ADHD symptoms at a young age, have more anxiety symptoms than other same aged children do (Overgaard, Aase, Torgersen & Zeiner, 2016). Medication treatment for ADHD is highly recommended to treat the core symptoms, such as impulsiveness, hyperactivity and inattention that have often made studying difficult for children and adolescents (Charach & Fernandez, 2013).

The purpose of this study was to see how ADHD, gender and medicine intake effected adolescents’ distress symptoms. The hypotheses of this study were three, a) adolescent diagnosed with ADHD would experience more distress symptoms than adolescents that do not have the same diagnosis, b) there is a gender difference between the groups of having ADHD and experiencing
more distress symptoms, and c) ADHD diagnosed adolescents that are taking medication for the disorder experience more distress symptoms than the ADHD diagnosed adolescents that do not take medication. The results supported all three hypothesis, as ADHD did predict, and had a positive correlation, with distress symptoms, gender had a positive correlation with distress symptoms where girls experience more distress symptoms than boys do. The last hypothesis regarding medication intake was also supported, but ADHD did have a positive correlation with distress symptoms.

**Strengths and limitations**

One of the limitations of this study was that the ADHD diagnosed adolescents were only 440 while there were 2,510 participants that did not have the diagnosis, and 39 did not answer the question. The participants that answered the question about medication intake, only 231 participants were taking medication for their ADHD disorder, while 2,722 were not, and 36 did not answer the question. It would have been preferable to have more participants with ADHD and more participants that were taking medication for their disorder. It is also a limitation that ADHD, gender and medication intake explained only 12.9% of the participants’ distress symptoms.

The strengths of this study were that there were many participants that filled out the questionnaire, and there were equally as many boys as there were girls. In addition, the distress scale was made from the SCL-90 scale that is designed to evaluate a vast range of psychological issues and is very accurate (Derogatis, Lipman, & Chovi, 1973). When the participants were filling out the questionnaire, they were placed in a classroom and had little as no interruption while answering the questions. Teachers from each school were in the classroom with the participants the whole time they were filling out the questionnaire, and were able to help those who needed help. The total response rate nationwide was very high or 86.0%.

**Conclusions**

It has been shown that ADHD is linked to anxiety, depression and other disorders, both mental and physical (Cho et al. 2008; Chao et al. 2008; Ostrander, Crystal & August, 2006; Meinzer
et al. 2014; Newcorn et al. 2004; Jensen & Steinhausen, 2015). Therefore, it is very important to receive proper medication to keep the core symptoms restrained so that they cannot encourage further anxiety- and/or depression symptoms (Charach & Fernandez, 2013; Chang et al. 2016; Snircova et al. 2016).

The independent variables explained 12.9% of the variance of distress symptoms, which means that other factors explain 87.1% of the participants’ distress symptoms. It would be interesting to see what other factors might have a role in adolescents’ distress symptoms, whereas ADHD, gender and medication intake only explains a little less than 13%. Furthermore, it would be interesting to add other variables to the mix, such as social status, and examine what an active social life, having many friends and playing sports regularly have. An adolescents’ conception of social life and participation in extracurricular activities can affect their mood, and often lighten their spirits if they, for instance, are passionate about their favorite sport. That can have a positive effect on a person’s mood and might reduce anxiety and depression symptoms (Chao et al. 2008). One of the main symptoms of ADHD is hyperactivity and impulsivity (Charach & Fernandez, 2013) so individuals with ADHD might like sports where there is a lot of activity going on, such as football, basketball, swimming or dancing. Involvement in social life is important to young adults, either to communicate with their peers, doing what they love (sports), or just simply to have fun.

In conclusion, further research is needed to determine what exactly causes these distress symptoms to appear in adolescents. Even though ADHD, gender and medicine intake have a significant effect on these symptoms, they are not the only variables that influence the distress symptoms.
References


THE GENDER DIFFERENCE OF MEDICATION ON DISTRESS SYMPTOMS

Appendix A

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

Appendix B

21) Hefurðu verið greind(ur) með aðlygłisbrest og ofvirkni?
   Já □   Nei □

Appendix C

22) Notar þú nú lyf vegna aðlygłisbreks og ofvirkni?
   Já □   Nei □

Appendix D

26. Hversu oft varðst þú var/vör við eftirfaraní vanlóðan eða óþægindi síðastlóðna víkum?
(Merknu f. EINN reit f hverjum líð)

   Nær alðrei  Sjaldan  Stundum  Oft

 a) Hofsúverk  □      □      □      □
 b) Verk í maga □      □      □      □
 c) Taugaóstykk □      □      □      □
 d) Skynđilegaz hreðsku án nokkurra ástæðu □      □      □      □
 e) Dú varst uppspennt/ur □      □      □      □
 f) Dú varst leið/ur eða háflir litinn áhuga á að gera hluti □      □      □      □
 g) Dú háflir líta mannlýst □      □      □      □
 h) Dér fannst þú einmana □      □      □      □
 i) Dú grést suðveldilega eða lengaði til að gríta □      □      □      □
 j) Dú áttir eftir með að sofina eða hálta þér sofandi □      □      □      □
 k) Dú varst niðurdegin(ü) eða dapur/döpur □      □      □      □
 l) Dú varst ekki spenntur fyrir að gera nokkurn hlut □      □      □      □
 m) Dér fannst þú vera hægfaða eða hafa litinn mátt □      □      □      □
 n) Dér fannst framtlóð vonlaus □      □      □      □
 m) Dú hugsaðir um að styttja þér aldur □      □      □      □
 n) Dér leið eins og allir hefur þragið þér □      □      □      □
 a) Dú háflir engan til að tala við □      □      □      □
Ágætu foreldrar / forráðamenn,


Megináherslur rannsóknanna Ungt fólk eru þær sömu í ár og áður hefur verið og líða að því að kanna hagi og líðan ungmennanna af félagslega þættum. Hér má m.a. nefna tengsl við foreldra og vini, þróttingu og tómstundir, félagslið, líðan, einelti, streitu, mataráði, nám, brettfallsáhættu, félagslega stöðu, svefnvenjur, lestur, tölunotkun, vímuefnaneslystu, framtíðaráform og annar mikilvægt.

Könnunin er nafnlaus og því ekki hægt að rekja neinar upplýsingar til einstaklinga og eru nemendur sérstaklega beðnir að rita hvorki nafn sitt né kennitölu á spurringalistann. Þegar nemendur hafa lokið við að fylla út spurringalistana eru þeir beðnir að setja þá í túnudarámsögu og loka þeim vandlega áður en þeim er safnað saman. Listarnir eru svo sendir greiningaraðilum sem tölvuskrá upplýsingarnar án þess að geta með nokkru móti vitað hverjum þær tilheyr. Óll gögn rannsóknarinnar eru ópersónulegar. Að skráningu lokinni er spurringalistunum eytt.

Með þessu bréfi biðjum við ykkur, kæru foreldrar/forráðamenn, að sambykjka að barn því þétt í könnuninni. Berist okkur ekki athugasemdir við þessari gerum við ráð fyrir að slikt sambykki sé til staðar. Verði þátttaka góð koma upplýsingarnar til með að skila mikilsverðum niðurstöðum, bæði hagnýtum og fræðilegum líkt og fyrri kannanir af þessu tagi hafa gert. Ef nánari upplýsinga er úskað þá vinsamlega hafið samband við Jón Sigfússon hjá Rannsókn & greiningu með tölvupósti rannsoknir@rannsoknir.is eða í síma 599 6431.

Með vinsemend og virðingu
Starfsfólk Rannsókn & greiningar