



The Effect of Body Image and Physical Activity on Depressive Symptoms: A study on Icelandic adolescent girls and boys

Lovísa Dagmar Guðfinnsdóttir

2016

BSc in Psychology

Author: Lovísa Dagmar Guðfinnsdóttir

ID number: 060893-2689

Department of Psychology

School of Business

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-English

The main focus of this research is depression among adolescents, what effect body image and physical activity may have on depression and gender different. Data from Icelandic Centre for Social Research and Analysis (ICSRA), *Youth in Iceland 2014*, was used for this current study. Participants were a random sample of 2055 Icelandic grammar school students in 8th, 9th and 10th grade. Factorial Analysis of Variance (FANOVA) was used to test for main and interaction effects. The results of this current study indicated that negative body image increases the likelihood of depression and physical activity decreases the likelihood of depression. Negative body image has stronger effect on depression among girls than boys, while the effect of physical activity on depression is not different between boys and girls. Results also indicated that physical activity does not buffer the effects between body image and depression.

Keywords: body image, physical activity, depressive symptoms

Abstract - Icelandic

Markmið þessarar rannsóknar er að skoða þunglyndi hjá unglíngum, hvaða áhrif líkamsímynd og hreyfing hefur á þunglyndi og hvort áhrifin séu mismunandi eftir kyni. Í þessari rannsókn voru gögn frá Rannsókn og Greiningu notuð, þar sem 2055 íslenskir grunnskóla nemendur í 8., 9. og 10. bekk svöruðu spurningalista. Með fjölbreytu-dreifigreiningu (FANOVA) voru könnuð meginhrif og samvirkni líkamsímyndar og hreyfingar á þunglyndi. Niðurstöður rannsóknarinnar gáfu til kynna að neikvæð líkamsímynd auki líkurnar á þunglyndi og að hreyfing dragi úr líkunum á þunglyndi. Neikvæð líkamsímynd hefur meiri áhrif á þunglyndi hjá stelpum en strákuum, á meðan enginn munur er á kynjum varðandi áhrif hreyfingar á þunglyndi. Einnig gáfu þær til kynna að hreyfing dragi ekki úr áhrifum neikvæðrar líkamsímyndar á þunglyndi.

Lykilhugtök: líkamsímynd, hreyfing, þunglyndi

The Effect of Body Image and Physical Activity on Depressive Symptoms: A study on
Icelandic adolescent girls and boys

The Effect of Body Image on Depression among Adolescents

Adolescence is a phase of life that is dominated by rapid changes in body growth in addition to considerable psychological changes (Slater & Bremner, 2011). A considerable amount of researches has indicated that the prevalence of depression and negative body image increases from childhood through adolescence to adulthood (Davey, 2014; Holsen, Kraft, & Roysamb, 2001; Smolak 2003)

Research has revealed that 4-8% of adolescents suffer from depression. The symptoms of depression are connected to changes in feelings, thought, and behaviour and can manifest as both mental and physical. The major symptoms of depression are sadness and lack of interest (Davey, 2014). Adolescent girls reveal more symptoms of depression whereas adolescent boys became less depressed once they entered adolescence (Marcotte, 1996). An Icelandic study revealed similar results; during the period of 1997 to 2006 depressive symptoms have increased significantly for girls, while there were no changes among boys (Sigfusdottir, Asgeirsdottir, Sigurdsson, & Gudjonsson, 2008).

Adolescence is a very meaningful period in the development of body image (Fenton, Brooks, Spencer, & Morgan, 2010; Kostanski, Fisher, & Gullone, 2004). Body image refers to the subjective image, which adolescents compose of their own body and from the opinions of others (Reber & Reber, 2001). Icelandic research have indicated that adolescent girls have a considerably more negative body image than boys (Vilhjamlsson, Kristjansdottir, & Ward, 2012; Asgeirsdottir, Ingolfsson, & Sigfusdottir, 2012) and they are more likely to go on diets (Ingolfsson, Asgeirsdottir, Gunnarsdottir, & Bjornsson, 2014).

Negative body image during childhood and adolescence creates risk for the development of body dissatisfaction and eating disorder as well as depression in adulthood

(Smolak, 2003; Stice, Hayward, Cameron, Killen, & Taylor, 2000). Research has indicated that early adolescent girls who have negative body images reported higher levels of depressive symptoms than the girls with positive body images (Rierdan & Koff, 1997). Shin and Shin (2008) also indicated that the obese children with negative body image had lower self-esteem and reported higher levels of depression than the obese and normal weight children without body dissatisfaction. Furthermore, Holsen et al. (2001) conducted a 5-year longitudinal investigation on 645 adolescents, mainly from three measurements: at age 13, 15 and 18. Results indicated that girls reported at all ages higher rate of depression and more negative body image than boys. In addition, the results indicated that body image has stronger effect on depression among girls than boys at age 15.

The Effect of Physical Activity on Depression and Body Image

Physical activity or exercise is the most basic human action and is generally defined as bodily movement produced by skeletal muscles that require expenditure of energy. It is not only organized action but is accepted in many daily activities such as working, transportation, household chores and leisure. Physical activity is important to develop and live a healthy life (Straub, 2014) and has been proved to be mentally and physically beneficial for both children and adolescents (Janssen & LeBlanc, 2010).

However, immobility is a major problem among adolescents in Europe including Iceland (Eidsdottir, Kristjansson, Sigfusdottir, & Allegrante, 2008; Telama & Yang, 2000). Reportedly, adolescents should exercise at least 60 minutes daily in moderate intensity to labor-intensive exercises that are appropriate and entertaining (Janssen & LeBlanc, 2010). But more than half of all Icelandic adolescents do not achieve the recommended level of daily physical activity. In general are boys more physical active than girls but as they age, exercise decreases for both gender (Eidsdottir et al., 2008; Ussher, Owen, Cook, & Whincup, 2007).

Regular physical activity is a highly important factor in battling depression and can partially suppress its symptoms. An aerobic exercise at 60-80% of maximum heart rate for 30 minutes three times per week for an overall duration of 8 weeks, delivers good results (Perraton, Kumar, & Machotka, 2010), and when the intensity is higher, the greater the benefit will be (Tremblay, Kho, Tricco, & Duggan, 2010). In addition, exercise as additional treatment has been advised along with other established treatments (Perraton et al., 2010). Results of a study conducted on adolescents in London revealed that physical activity could cause a decrease in the odds of depressive symptoms of about 8% for each additional hour if exercise is undertaken per week. There was also a stronger effect of physical activity on depressive symptoms among boys (Rothon et al., 2010). Similar results were found in a three-year follow-up research conducted on 7343 adolescents aged 15-16 from Oslo, Norway. The results indicated that the association was more consistent between physical activity and mental health among boys than girls three years later (Sagatun, Søgaard, Bjertness, Selmer, & Heyerdahl, 2007).

A considerable amount of researches have also indicated that regular physical activity has a beneficial effect on body image amongst children and adolescents (Burgess, Grogan, & Burwitz, 2006; Monteiro Gaspar, Amaral, Oliveria, & Borges, 2011; Slater & Tiggemann, 2011). Burgess et al. (2006) investigated the effect of 6 weeks of aerobic dancing on 13 – 14 years old schoolgirls. The result indicated that participation in 6 weeks of aerobic dance classes' decreased negative body image and enhanced physical self-perception. Bowker (2006) indicated similar results that sport participation can lead to a positive body image among adolescents.

Physical Activity Buffers the Effects of Body Image on Depression

Regular physical activity is a very important factor for good health and can decrease the adverse effects of stressful life events. Stressful life events can make individuals more

vulnerable to disorders and health problems, both physical and psychological (Straub, 2014). Carmack, Moor, Boudreaux, Amaral-Melendex and Brantley (1999) suggested that physical activity buffers the effects of minor stressor on physical and mental symptoms.

Sigfusdottir, Asgeirsdottir, Sigurdsson and Gudjonsson (2011) investigated the buffering effect of physical activity on depression caused by family conflict among 7232 Icelandic adolescents. The result indicated that family conflict among adolescents increases the likelihood of depression, while physical activity decrease the likelihood of depression. Furthermore, the results revealed that physical activity has more effects on depression for adolescents living with family conflict. So physical activity buffers the effect of family conflict on depression among Icelandic adolescents girls and boys, but have stronger effect among girls.

Zarshenas, Houshvar and Tahmasebi (2013) investigated the effect of short-term aerobic exercise on depression and body image in Iranian women. Participants were 82 females, which were then divided into two equal groups, experimental and control group. The experimental group was signed up to an aerobic exercise, while the control group had to wait for four weeks. All participants in both groups were evaluated by Beck Depression Inventory-second edition (BDI-II) and Multidimensional Body Self-Relation Questionnaire (MBSRQ), before and after four weeks. The results indicated that the experimental group (aerobic exercise) showed a significant decrease in depression symptoms combined with an improved body image in comparison with control group (Zarshanas, Houshvar, & Tahmasebi, 2013). Another research indicated similar results; that vigorous physical activity buffers the effect of negative body image on depression (El Ansari et al., 2011).

The main aim of this study is to examine the relationship between body image, physical activity and depression. The effect of physical activity on depressed Icelandic adolescents with negative body image will also be examined. Additionally, it was tested

whether these effects differ for girls and boys. Based on the above literature reviewed it was hypothesized that: 1) Negative body image increase the likelihood of depression among Icelandic adolescents. 2) A negative body image has stronger effect on depression among girls than boys. 3) Physical activity decreases the likelihood of depression among Icelandic adolescents. 4) Physical activity has stronger effect on depression among boys than girls. 5) Physical activity buffers the effect of negative body image on depression.

Method

Participants

The present study used data from the Icelandic Centre for Social Research and Analysis (ICSRA), *Youth in Iceland* 2014 (Palsdottir et al., 2014). The data was retrieved from students of 8th - 10th grade in all grammar schools in Iceland; in total a response from 11.013 students. The research total response rate was 86,3 %. The research sample were answers from 2055 participants, chosen at random from the overall research data. These were 992 boys and 1036 girls, in addition to 27 who did not reveal their sex. The participants in this research were of the age of 14-16. Participants didn't receive any payment or reward for their participation in the study.

Procedure

Youth in Iceland was conducted by ISCRA in February 2014 (Palsdottir et al., 2014). The questionnaire was sent to every 8th, 9th, and 10th grade in all grammar schools in Iceland and administered in class by teachers to those students who attended school that day. ISCRA sent a letter of authorization to all parents since there is a legal obligation to notify parents of students not yet of age of the questionnaire (Appendix A). If parents would not like their children to participate they were asked to contact employees of the ISCRA at a disclosed mail and/or phone number. It was clearly stated to participants to write neither their names nor

social identification number on the questionnaires so that the answers could not be traced back to them. *Youth in Iceland* surveys have a special permit from the Data Protection Authorities in Iceland to execute the survey, so it is ensured that it withstands any and all demands on safety regarding personal data. Participants were asked to answer all question to the best of their ability and ask for help if needed. Finally, the participants placed the questionnaire in an unmarked envelope, which was then delivered to the teacher.

Instruments and Measures

This research used a questionnaire to collect data. The questionnaire was put together by ICSRA at the University of Reykjavík and is intended to evaluate the state of general wellbeing of students of the 8th-10th grades in Iceland. The original questionnaire from ICSRA consisted of 82 questions in a varied number of segments on 28 pages (Palsdottir et al., 2014). This research, however, used only six questions that focused on the background variables of gender (0 = “boys” and 1 = “girls”) and grade (1= “8th grade”, 2= “9th grade” and 3 = “10th grade”), physical activity, depression and body image (Appendix B). The available responses were on the Likert scale.

Body Image (independent variable): The Offer scale of body image (Offer, 1972) is a seven items scale and was used to assess participants’ body image. Six statements were positively worded and one negatively (Appendix B). The six positive statements were reversed to match the negative statement and then all seven items were computed into the body image variable. The scores were on the scale range of 0 (negative body image) to 21 (positive body image). The participants were divided into two groups based on their body image with median split: 1 = “negative body image”, and 2 = “positive body image”. Cronbach’s Alpha was .71, so the items had high reliability and indicated high internal consistency.

Physical activity (independent variable): To measure participants’ physical activity

with items “Do you engage in any form of physical training or sport?” and “How often do you exert your-self physically so you exhaust yourself or sweat?” were computed together (Appendix B). The participants were divided into three groups based on their weekly physical activity: 1 = “almost never”, 2 = “1-3 times per week”, and 3 = “4 times or often per week”. The items had high reliability or Cronbach’s Alpha = .86, and indicate high internal consistency.

Depression (dependent variable): To measure participants’ depression nine items were computed together (Appendix B). The scores on the scale ranged from 0 (low depression) to 27 (high depression). Higher scores represented a higher level of depression. The items had high reliability (Cronbach’s Alpha = .92), indicating high internal consistency.

Design and Data Analysis

The study design was quantitative where the numerical data of a large sample was emphasized. Generalising results increases in dependability the larger the sample and better represents the group being studied. Professionals in the field of social science made strict demands on the questions giving dependable, valid and safe results.

In this current study the body image and physical activity of adolescents was tested, in addition to focusing on whether they displayed high or low depression and the gender difference examined. Data was analysed in the Statistical Package for the Social Science (SPSS). Factorial Analysis of Variance (FANOVA) was used to examine main and interaction effects of body image, physical activity and gender on depression among adolescents (2 x 3 x 2 design). To examine the assumptions of the current study, the Kolmogorov-Smirnov test were used to assess the normality and the Levene’s test assessed the covariance.

Results

The current study examined the main and interaction effects of body image, physical activity and gender on depression among Icelandic adolescent with factorial analysis of variance (FANOVA). The descriptive statistics for the variables used in the study are shown in Table 1. The table shows the mean of dependent variable depression, standard deviation and number of participants of body image, physical activity and gender. The possible range for depression was 0 to 27 (high scores indicating high depressive symptoms), and the mean value was 6.40 ($SD = 7.05$). Gender range from 0 to 1 and the mean value was 0.51 ($SD = 0.5$). Body image ranges from 1 to 2 and the mean value was 1.51 ($SD = 2.0$) indicating that participants had a rather positive body image. Physical activity ranged from 1 to 3 and mean value was 1.92 ($SD = 0.76$) indicating that participants were rather physically active.

Table 1

Descriptive statistics showing the mean of depression, standard deviation and number of participants, by body image, physical activity and gender

	Physical activity	<i>M</i> boys	<i>M</i> girls	<i>SD</i> boys	<i>SD</i> girls	<i>n</i> boys	<i>n</i> girls
Negative body image	1	8.23	12.80	7.33	8.27	122	229
	2	6.97	9.78	6.71	7.70	117	260
	3	5.77	10.40	6.60	6.80	57	87
Total		7.29	11.07	7.00	7.92	296	576
Positive body image	1	3.18	4.78	4.04	4.55	144	86
	2	2.45	3.14	3.48	3.79	207	174
	3	2.38	3.87	3.50	4.64	197	113
Total		2.62	3.74	3.65	4.28	548	373

Results from FANOVA indicated significant main effect of body image, physical activity and gender on depression. Results revealed that girls were significantly higher in depression than boys ($F(1, 1781) = 71.725; p < 0.001$). Adolescents who have a negative body image have significantly higher levels of depression than those who have a positive body

image ($F(1,1781) = 341.052; p < 0.001$). Results also indicated that those who are physically active have significantly lower levels of depression ($F(2,1781) = 13.758; p < 0.001$).

The interaction effect of body image, physical activity and gender on depression was examined with FANOVA. Results indicated that the interaction effect between body image and physical activity on depression is not significant ($F(2,1781) = 2.156; p = 0.116$). These non-significant interactions indicated that physical activity does not decrease the effect between body image and depression. Interaction between physical activity and gender on depression was also non significant ($F(2,1781) = 2.332; p = 0.097$). That is, the effect of physical activity on depression is not different between boys and girls. However the interaction between body image and gender on depression turned out to be significant ($F(1,1781) = 19.293; p < 0.001$). These significant interactions are shown in Figure 1, they revealed that body image has a significantly stronger effect on depression among girls than boys.

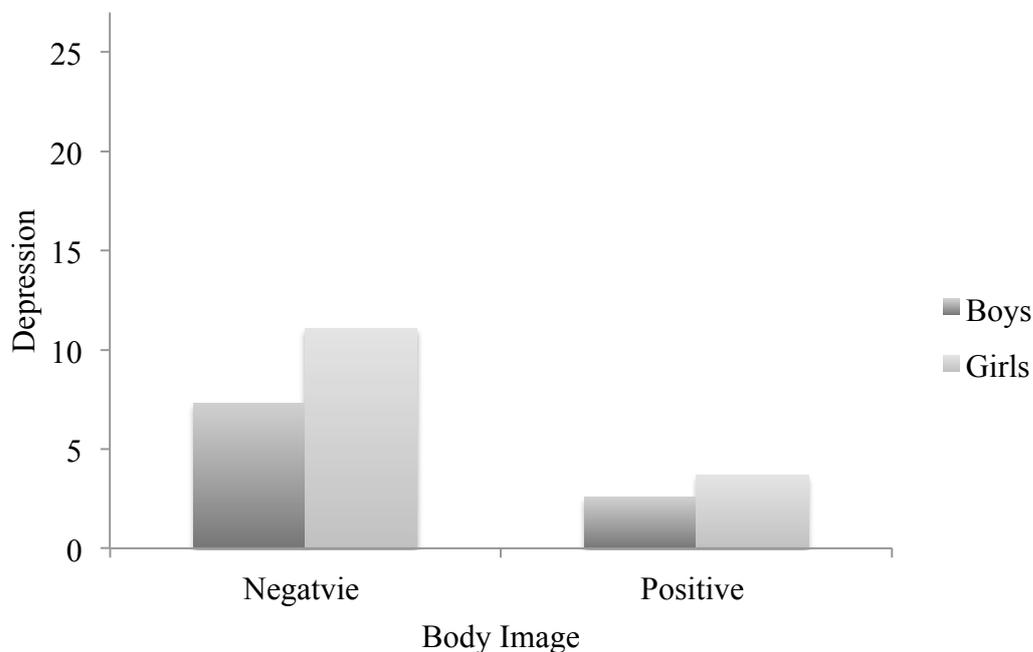


Figure 1. Interaction effect of body image on depression among girls and boys

Discussion

The primary purpose of this research was to investigate depression among Icelandic adolescents in 8th, 9th and 10th grades. What effect body image and physical activity may have on depression and gender different. Added to this, the buffering effect of physical activity on body image and depression. The findings of the research support the first hypothesis that a negative body image increases the likelihood of depression among adolescents. These findings are in line with Shin and Shin (2008) where they revealed that children with negative body image had lower self-esteem and reported higher levels of depression than children without body dissatisfaction. Also, the findings support the second hypotheses that body image has stronger effects on depression among girls than boys. The results are in line with Holsen et al. (2001) where they showed that a negative body image has an effect on depression and has a stronger effect among girls than boys.

The results supported the third hypothesis that physical activity decreases the likelihood of depression. This is in accordance with Rothan et al. (2010) where they showed that physical activity could cause a decrease in the odds of depression. The results are also consistent with the findings of Perraton et al. (2010), whereas they showed that when the intensity is higher in the physical activity, the greater the benefit will be in decreasing depression symptoms. Further findings in this research were that the effect of physical activity on depression is not different between boys and girls, and therefore the fourth hypothesis was rejected. These findings are not in line with previous research, which have indicated that physical activity has a stronger effect on depression among boys than girls (Rothan et al., 2010; Sagatun, Sogaard, Bjertness, Selmer, & Heyerdahl, 2007).

The fifth and the final hypothesis in this research stated that physical activity buffers the effect of negative body image on depression. The hypothesis was not supported whereas the result showed that physical activity does not buffers the effect of negative body image on

depression among Icelandic adolescent in 8th, 9th and 10th grade. Furthermore, this result is not consistent with previous studies, which have indicated that physical activity decreases depression symptoms combined with an improved body image (El Ansari et al., 2011; Zarshanas, Houshvar, & Tahmasebi, 2013).

The current research was not without limitations. The main limitations of this research were that a few assumptions were broken. The assumption of normality for the dependent variable was broken because Kolmogorov-Smirnov tests were significant. Also, the assumption about covariance was broken because Levene's tests were significant. If any of the assumptions do not hold then the test statistic and *p*-value could be affected and could lead to the wrong conclusion. However, analysis of variance is robust against small deviations in its assumptions (Field, 2013). Another limitation is the fact that the research was cross-sectional and because of that it is not possible to conclude if causal relationships exist. That is, causality can't be determined between physical activity, body image and depression. Also, all information was obtained by self-reported questionnaires, which can lead to bias in the results and how truthfully participants answered the questionnaire.

The strengths of the research were the large sample size, there were 2055 participants who answered the questionnaire and they were selected at random. The research total response rate was 86,3 % from all grammar school in Iceland, which is very high in comparison with other research. Finally, there was total anonymity; the answers from participants could not be traced back to them.

From these results it can be concluded that it is very important for both girls and boys to live a healthy life style starting in childhood, where the focus is on regular physical activity and enhancing positive body image. Because physical inactivity and negative body image among adolescents can increase the likelihood of depression. In extension to this research it would be interesting to observe the effect of physical activity and body image has on

depression among Icelandic high school students and adults. And then comparing this effect among Icelandic adolescents with adolescents from other European countries or from The United States of America and see what are the similarities and what differences. Also, to observe what these main and interaction effects of physical activity and body image may have on anxiety among adolescents and compare them with depression. What effect physical activity may have on relationship between bullying and depression or anxiety among children, adolescents and adults. Furthermore, it would be interesting to observe other external factors that can affect the relationship between body image and depression, such as life experience, parenthood, bullying and further environmental conditions.

References

- Asgeirsdottir, B. B., Ingolfsson, G., & Sigfusdottir, I. D. (2012). Body image trends among Icelandic adolescents: A cross-sectional national study from 1997 to 2010. *Body Image*, 9(3), 404–408. <http://doi.org/10.1016/j.bodyim.2012.02.002>
- Bowker, A. (2006). The relationship between sports participation and self-esteem during early adolescence. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement*, 38(3), 214–229. <http://doi.org/10.1037/cjbs2006009>
- Burgess, G., Grogan, S., & Burwitz, L. (2006). Effects of a 6-week aerobic dance intervention on body image and physical self-perceptions in adolescent girls. *Body Image*, 3(1), 57–66. <http://doi.org/10.1016/j.bodyim.2005.10.005>
- Carmack, C. L., Moor, C. de, Boudreaux, E., Amaral-Melendez, M., & Brantley, P. J. (1999). Aerobic fitness and leisure physical activity as moderators of the stress-illness relation. *Annals of Behavioural Medicine*, 21(3), 251–257. <http://doi.org/10.1007/BF02884842>
- Davey, G. (2014). *Psychopathology: research, assessment and treatment in clinical psychology* (Second edition). Chichester, West Sussex: Wiley.
- Eidsdottir, S. T., Kristjansson, A. L., Sigfusdottir, I. D., & Allegrante, J. P. (2008). Trends in physical Activity and participation in sport clubs among Icelandic adolescents. *European Journal of Public Health*, 18(3), 289-293.
- El Ansari, W., Stock, C., Philips, C., Mabhala, A., Storate, M., Adetunji, H., ... Snelgrove, S. (2011). Does the association between depressive symptomatology and physical activity depend on body image perception? A survey of students from seven universities in the UK. *International Journal of Environmental Research and Public Health*, 8(2), 281-299. <http://doi.org/10.3390/ijerph8020281>

- Fenton, C., Brooks, F., Spencer, N. H., & Morgan, A. (2010). Sustaining a positive body image in adolescence: an assets-based analysis. *Health & Social Care in the Community*, 18(2), 189-198. <http://doi.org/10.1111/j.1365-2524.2009.00888.x>
- Field, A. P. (2013). *Discovering statistics using IBM SPSS statistics: and sex and drugs and rock "n" roll* (4th edition). Los Angeles: Sage.
- Holsen, I., Kraft, P., & Røysamb, E. (2001). The relationship between body image and depressed mood in adolescence: A 5-year longitudinal panel study. *Journal of Health Psychology*, 6(6), 613-627. <http://doi.org/10.1177/135910530100600601>
- Ingolfsson, G., Asgeirsdottir, B. B., Gunnarsdottir, T., & Bjornsson, A. S. (2014). Change in body image and dieting among 16-19-year-old Icelandic students from 2000 to 2010. *Body Image*, 11(4), 364-369. <http://doi.org/10.1016/j.bodyim.2014.05.006>
- Janssen, I., & LeBlanc, A. G. (2010). Systematic review of the health benefits of physical activity and fitness in school-aged children and youth. *International Journal of Behavioural Nutrition and Physical Activity*, 7(1), 40. <http://doi.org/10.1186/1479-5868-7-40>
- Kostanski, M., Fisher, A., & Gullone, E. (2004). Current conceptualisation of body image dissatisfaction: Have we got it wrong? *Journal of Child Psychology and Psychiatry*, 45(7), 1317-1325. <http://doi.org/10.1111/j.1469-7610.2004.00315.x>
- Marcotte, D. (1996). Irrational beliefs and depression in adolescence. *Adolescence*, 31(124), 935-54.
- Monteiro Gaspar, M. J., Amaral, T.F., Oliveira, B. M.P.M., & Borges, N. (2011). Protective effect of physical activity on dissatisfaction with body image in children – A cross-sectional study. *Psychology of Sport and Exercise*, 12(5), 563-569. <http://doi.org/10.1016/j.psychsport.2011.05.004>

- Offer, D. (1972). An empirical analysis of the Offer self-image questionnaire for adolescents. *Archives of General Psychiatry*, 27(4), 529.
<http://doi.org/10.1001/archpsyc.1972.01750280091015>
- Palsdottir, H., Sigfusson, J., Þorisdóttir, I. E., Guðmundsdóttir, M. L., Kristjánsson, A. L., & Sigfusdóttir, 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*. Reykjavík: Rannsókn og Greining. Mennta- og menningarmálaráðuneyti.
- Perraton, L. G., Kumar, S., & Machotka, Z. (2010). Exercise parameters in the treatment of clinical depression: A systematic review of randomized controlled trials. *Journal of Evaluation in Clinical Practice*, 16(3), 597-604. <http://doi.org/10.1111/j.1365-2753.2009.01188.x>
- Reber, A. S., & Reber, E. S. (2001). *The penguin dictionary of psychology* (3rd ed). London; New York: Penguin Books.
- Rierdan, J., & Koff, E. (1997). Weight, weight-related aspects of body image, and depression in early adolescents girls. *Adolescence*, 32(127), 615-24.
- Rothon, C., Edwards, P., Bhui, K., Viner, R. M., Taylor, S., & Stansfeld, S. A. (2010). Physical activity and depressive symptoms in adolescents: A prospective study. *BMS Medicine*, 8(1). <http://doi.org/10.1186/1741-7015-8-32>
- Sagatun, A., Sjøgaard, A. J., Bjertness, E., Selmer, R., & Heyerdahl, S. (2007). The association between weekly hours of physical activity and mental health: A three-year follow-up study of 15-16 year-old students in the city of Oslo, Norway. *BMC Public Health*, 7, 155. <http://doi.org/10.1186/1471-2458-7-155>

- Shin, N. Y., & Shin, M. S. (2008). Body dissatisfaction, Self-esteem, and depression in obese Korean children. *The Journal of Pediatrics*, *155*(4), 502-506.
<http://doi.org/10.1016/j.jpeds.2007.09.020>
- Sigfusdottir, I. D., Asgerisdottir, B. B., Sigurdsson, J. F., & Gudjonsson, G. H. (2008). Trends in depressive symptoms, anxiety symptoms and visits to healthcare specialists: A national study among Icelandic adolescents. *Scandinavian Journal of Public Health*, *36*(4), 361-368. <http://doi.org/10.1177/1403494807088457>
- Sigfusdottir, I. D., Asgeirsdottir, B. B., Siurdsson, J. F., & Gudjonsson, G. H. (2011). Physical activity buffer the effect of family conflict on depressed mood: A study on adolescent girls and boys. *Journal of Adolescence*, *34*(5), 895-902.
<http://doi.org/10.1016/j.adolescence.2011.01.003>
- Slater, A., & Bremner, J. G. (2011). *An introduction to developmental psychology* (2nd ed). Chichester, West Sussex: British Psychological Society and Blackwell Pub.
- Slater, A., & Tiggemann, M. (2011). Gender differences in adolescent sport participation, teasing, self-objectification and body image concerns. *Journal of Adolescence*, *34*(3), 455-463. <http://doi.org/10.1016/j.adolescence.2010.06.007>
- Smolak, L. (2003). Body image in children and adolescents: Where do we go from here? *Body Image*, *1*(1), 15-28. [http://doi.org/10.1016/S1740-1445\(03\)00008-1](http://doi.org/10.1016/S1740-1445(03)00008-1)
- Stice, E., Hayward, C., Cameron, R. P., Killen, J. D., & Taylor, C. B. (2000). Body image and eating disturbances predict onset of depression among female adolescents: A longitudinal study. *Journal of Abnormal Psychology*, *109*(3), 438-444.
- Straub, R. O. (2014). *Health psychology: a biopsychosocial approach* (Fourth edition). New York, NY: Worth Publishers, a Macmillan Higher Education Company.
- Telama, R., & Yang, X. (2000). Decline of physical activity from youth to young adulthood in Finland. *Medicine and Science in Sport and Exercise*, *32*(9), 1617-1622.

Tremblay, M. S., Kho, M. E., Tricco, A. C., & Duggan, M. (2010). Process description and evaluation of Canadian physical activity guidelines development. *International Journal of Behavioural Nutrition and Physical Activity*, 7(1), 42.

<http://doi.org/10.1186/1479-5868-7-42>

Ussher, M. H., Owen, C. G., Cook, D. G., & Whincup, P. H. (2007). The relationship between physical activity, sedentary behaviour and psychological wellbeing among adolescents. *Social Psychiatry and Psychiatric Epidemiology*, 42(10), 851-856.

<http://doi.org/10.1007/s00127-007-0232-x>

Vilhjalmsson, R., Krinstjansdottir, G., & Ward, D. S. (2012). Bodily deviations and body image in adolescence. *Youth & Society*, 44(3), 366-384.

<http://doi.org/10.1177/0044118X11402850>

Zarshenar, S., Houshvar, P., & Tahmasebi, A. (2013). The effect of short-term aerobic exercise on depression and body image in Iranian women. *Depression Research and Treatment*. <http://doi.org/10.1155/2013/132684>

Appendix A

Consent letter to parents



RANNSÓKNIR & GREINING
Háskólanum í Reykjavík

Reykjavík, 19. janúar 2014

Ungt fólk 2014

Rannsókn á högum og líðan nemenda í 5. – 10. bekk á Íslandi.

Ágætu foreldrar / forráðamenn,

Dagana 3.- 5. febrúar næstkomandi er fyrirhugað að gera könnun meðal nemenda í 5. til 7. bekk á Íslandi í samræmi við áherslur menntamálaráðuneytisins og samkvæmt rannsóknaráætlun um hagi og líðan ungs fólks á Íslandi til ársins 2016. Samhliða verður lögð fyrir örstutt könnun meðal nemenda í 8. til 10. bekk um vímuefnaneyslu. Hvort tveggja er beint framhald rannsókna undanfarinna ára og sér Rannsóknir & greining við Háskólann í Reykjavík um framkvæmdina að vanda.

Markmiðið er annars vegar að rannsaka hagi og líðan nemenda í 5. – 7. bekk (tekur um 50 mínútur í svörun) og hinsvegar vímuefnaneyslu nemenda í 8. – 10. bekk (tekur um 10 mínútur í svörun).

Ungt fólk rannsóknaröðin hefur verið unnin á Íslandi samfellt frá árinu 1992. Slík samfella í rannsóknum á högum og líðan ungs fólks er ungu fólki og þeim sem að málaflokknum starfa afar mikilvæg. Upplýsingar úr rannsóknunum hafa allt frá upphafi verið notaðar við stefnumótun og aðgerðir í málefnum ungs fólks og eru grunnur að vinnu þeirra sem vinna að því að bæta líf og hagi ungs fólks á Íslandi.

Megináherslur rannsókna *Ungt fólk* eru þær sömu í ár og áður hefur verið og lúta að því að kanna hagi og líðan ungmenna og félagslega þætti svo sem tengsl við foreldra og vini, íþróttir og tómstundir, félagslíf, líðan, einelti, streitu, mataræði, nám, brottfallsáhættu, félagslega stöðu, svefnvenjur, lestur, tölvunotkun (skjánotkun), vímuefnaneyslu, framtíðaráform og annað mikilvægt.

Sem fyrr er *Ungt fólk* könnunin unnin samkvæmt lögum um persónuvernd, er nafnlaus og því ekki hægt að rekja neinar upplýsingar til einstaklinga. Nemendur eru sérstaklega beðnir að rita hvorki nafn sitt né kennitölu á spurningalistann. Þegar útfyllingu spurningalistanna er lokið leggja nemendur þá í lokað umslag og loka vandlega áður en listunum er safnað saman. Listarnir eru svo sendir greiningaraðilum sem tölvuskra upplýsingarnar án þess að geta með nokkru móti vitað hverjum þær tilheyra. Að skráningu lokinni er spurningalistunum eytt.

Þessar upplýsingar eru sendar til að upplýsa þig um fyrirhugaða gagnaöflun. Ef þú óskar eftir að barn þitt barn þitt taki ekki þátt í *Ungt fólk* könnuninni í ár, hafðu þá samband við

starfsfólk Rannsókna & greiningar með tölvupósti ransoknir@ransoknir.is eða í síma 599 6431.

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 óskað þá vinsamlega hafið samband við Ransóknir & greiningu.

Með kærri kveðju
Starfsfólk Rannsókna & greiningar

Appendix B

Questionnaire

1. Ert þú strákur eða stelpa?

Strákur Stelpa

3. Í hvaða bekk ert þú? (Merktu aðeins í EINN reit)

8. bekk 9. bekk 10. bekk

28. Hversu oft varðst þú var/vör við eftirfarandi vanlíðan eða óþægindi síðastliðna viku?

(Merktu í EINN reit í hverjum lið)

f) Þú varst leið/ur eða hafðir lítinn áhuga á að gera hluti	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Þú hafðir litla matarlyst	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Þér fannst þú einmana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Þú grést auðveldlega eða langaði til að gráta	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Þú áttir erfitt með að sofna eða halda þér sofandi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) Þú varst niðurdregin(n) eða dapur/döpur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Þú varst ekki spenntur fyrir að gera nokkurn hlut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m) Þér fannst þú vera hægfara eða hafa lítinn mátt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n) Þér fannst framtíðin vonlaus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

36. Hversu vel eða illa eiga eftirfarandi fullyrðingar við um þig? (Merktu í EINN reit í hverjum lið)

	Lýsir mér mjög vel	Lýsir mér nokkuð vel	Lýsir mér ekki nógu vel	Lýsir mér alls ekki
a) Þegar ég hugsa um hvernig ég muni líta út í framtíðinni er ég ánægð(ur)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Mér finnst ég oftast vera ófríð(ur) og óaðlaðandi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Ég er ánægður með líkama minn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Ég er ánægð(ur) með þær líkamlegu breytingar sem átt hafa sér stað hjá mér undanfarin ár	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Mér finnst ég vera sterk(ur) og hraust(ur)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Ég er ánægð(ur) með líf mitt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Ég er hamingjusöm/hamingjusamur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

