



Effects of diet behaviour and sport participation on body image and body shame

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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 - English

The study was conducted in April 2016. Participants were 92 in total, 30 males and 62 females from Reykjavik University and the age range of participants was between 20 and 38. The purpose of this study was to identify the aspects of diet behaviour and sport participation and its effects on body shame and body image. Previous studies in this area were examined to identify these factors. The hypothesis that researcher presented were that participants that have tried to lose weight are more likely to have higher body shame than those who have not tried to lose weight and females are more likely to have tried to lose weight. Also that participants with high physical activity are more likely to have a better body image and males have better body image. The results of the study showed that there was not a significant difference in the mean levels of body shame nor body image between genders. Results also showed that sports participation and physical activity had an effect on participants' body image but this effect was not different for males than it was for females.

Keywords: body shame, body image, diet behaviour, sport participation, physical activity

Abstract - Icelandic

Rannsóknin var gerð í apríl 2016. Þátttakendur voru 92 talsins, 30 karlar og 62 konur frá Háskólanum í Reykjavík og aldur þátttakenda var á bilinu 20 til 38 ára. Tilgangur rannsóknarinnar var að bera kennsl á áhrif megrunarhegðunar og þátttöku í íþróttum á líkamlega skömm og líkamsímynd. Fyrri rannsóknir voru skoðaðar til þess að bera kennsl á þessa þætti. Tilgáturarnar sem rannsakandi setti fram voru að þátttakendur sem hafa reynt að léttast eru með hærri líkamslega skömm heldur en þeir sem hafa ekki reynt að léttast og að konur eru líklegri til þess að hafa reynt að léttast. Einnig að þátttakendur sem æfa mikið eru líklegri til að hafa betri líkamsímynd og að karlar hafa betri líkamsímynd. Niðurstöður rannsóknarinnar sýndu að það var ekki marktækur munur á meðaltölum líkamlegrar skammar né líkamasímyndar milli kynja. Niðurstöður sýndu einnig að þátttaka í íþróttum og hreyfing hafði áhrif á líkamsímynd þátttakenda en þessi áhrif voru ekki frábrugðin fyrir karla og fyrir konum.

Lykilorð: líkamleg skömm, líkamsímynd, megrunarhegðun, þátttaka í íþróttum, líkamleg virkni

Effects of diet behaviour and sport participation on body image and body shame

Abnormal eating behaviour, lack of physical activity, feelings of body shame and negative body image are problems in modern societies. Standards of physical appearance are increasing and therefore putting pressure on individuals to lose weight. This can especially be a problem among adolescents (Thompson & Stice, 2001).

Body image and Body Shame

Body image is the opinion or feeling that we have about our physical appearance. This perspective can be positive or negative, and can affect our behaviour (Cash, 2004). Positive body image is accepting your body even if does not fall under the ideal social figure. Individuals that feel confident and comfortable in their own skin are considered to have a positive body image. Respect for our body and acceptance for its imperfection may be a protective factor in relation to abnormal eating behaviour (Wood-Barcalow, Tylka & Augustus-Horvath, 2010).

Body shame is defined as a feeling within an individual that occurs because they look at their body in a different way and less attractive than what is considered socially accepted. These feelings can cause individuals to be embarrassed about their own body and it may ignite a need to lose weight in order to feel better about their physical appearance (Fredrickson & Roberts, 1997). Feelings of shame are often associated with behaviour and attitudes in relation to food (Manjrekar, Schoenleber & Mu, 2013) and body shame can trigger abnormal behaviours, such as extreme dieting, disturbed eating and even eating disorders (Fredrickson & Roberts 1997).

Sport participation and physical activity

Participation in sports and physical activity has ties to better body image. The results of a study done by Harriger and colleagues (2014) suggest that individuals who participate in

sport could increase their body image (Harriger, Witherington & Bryan, 2014) and Varnes and colleagues (2015) showed in their research that females who participated in sports had more positive body image than those who did not. This body image reflected in positive feelings about their physical appearance and weight (Varnes, Stellefson, Miller, Janelle, Dodd & Pigg, 2015).

Dieting behaviour

Grigg, Bowman and Redman (1996) reported in their study that dieting behaviour and disordered eating is common among adolescents. These abnormal behaviours were associated with the desire to have the ideal body figure. Individuals may have negative feelings about their body that can developed into abnormal eating behaviour (Grigg et al., 1996). Similar results to Grigg and collages study are shown in research done by Duarte, Pinto-Gouveia and Ferreira (2014), which showed results of a correlation between abnormal eating behaviour and body shame (Duarte et al., 2014) and in Manjrekar and colleagues (2013) research, which showed similarly that individuals that experienced body shame had negative attitude towards food and were likely to develop abnormal eating behaviour, such as dieting (Manjrekar et al., 2013).

The role of body shame and physical appearance association with eating behaviour was examined by Dakanalis and colleagues (2015). The results showed that any behaviour that involved individuals obsessing about their body weight, body shape or comparing themselves with others was associated with increased body shame and negative feelings about physical appearance, which led to extreme eating behaviour (Dakanalis et al., 2015).

Gender difference in diet behaviour

Most studies show gender difference when it comes to body shame and the main focus is usually on females because they seem to have higher body shame and more negative

perspective towards their own body weight than males (Jaworowska & Bazylak, 2008; Tylka, 2004). According to McKinley (1998) there is a gender difference when it comes to body shame, females have higher body shame than males (McKinley, 1998). This was also the case in Knauss and colleagues (2008) study and in Pila and colleagues (2015) study. The results showed gender difference, females experience more body shame than males (Knauss, Paxton & Alsaker, 2008; Pila, Sabiston, Brunet, Castonguay & Loughlin, 2015). Tylka and Subich (2004) showed similar results in their study, were females that compare their body to other females are more likely to have higher body shame (Tylka & Subich, 2004).

Slater and Tiggemann (2010) found gender difference in their study in relation to body shame and disordered eating. Females showed higher body shame and disordered eating than males (Salter & Triggemann, 2010), which was also the case in the study done by Grabe, Hyde and Lindberg (2007), showing results indicating that females were more likely to experience body shame (Grabe et al., 2007). However, these results were in contrast to the results in the study done by Lindberg, Hyde and McKinley (2006), were females did not show higher body shame than males (Lindberg, et al., 2006).

Manjrekar and colleagues showed in their study that body shame associated with eating behaviour. Females who experienced feelings of shame towards their body were more likely to have been on a strict diet or be obsessed with food (Manjrekar et al., 2013). These results are similar to the results of Tylka and Hill (2004) study, were the results suggest that females who had high body shame were more likely to find ways to lose weight (Tylka & Hill, 2004).

Negative and positive aspects

Research on body shame and body image in relation to the development of eating disturbances have been growing in the past decades. The importance of positive body image is known, but researches have been mainly focusing on the effects that a negative body image

has on individuals rather than focusing on how a positive body image is a benefiting factor (Smolak, 2004). It is important to look at how we can change and improve attitudes towards our own body. By changing thoughts about our own body, reducing negativity feelings, we can improve body image and prevent possible extreme or unhealthy dieting behaviours (Pila et al., 2015).

The current study

The purpose of this study was to identify the aspects of diet behaviour and sport participation and physical activity and its effects on body shame and body image. Based on the above literature the following hypothesis were presented, (1) participants that have tried to lose weight are more likely to have higher body shame than those who have not tried to lose weight (2), females are more likely to have tried to lose weight, (3) participants with high physical activity are more likely to have a better body image, and (4) males have better body image.

Method

Participants

The participants were 92 undergraduate psychology and sport science students from Reykjavík University, that voluntarily participated in the study. Participants were 30 males and 62 females, and the age range of the participants was between 20 and 38 years. The mean age was 24.70 (SD = 4.03). Participants were chosen with convenience sample and two departments were selected to participate, psychology department and sport science department. All students in these departments were invited to participate in the study.

Instruments and measures

Participants completed a questionnaire, which included the following aspects: age, gender, body image, body shame, diet behaviour and sport participation and physical activity.

Age and gender. Participants answered a question about their gender. Participants were also asked to state their age.

Body image. The Body and Self-Image subscale of the Offer Self-Image Questionnaire (OSIQ) was used to measure participants body image. The scale contained the following 5 questions: (1) “When I think about how I will look in the future I’m happy”, (2) “I often think I’m ugly and unattractive”, (3) “I am happy with my body”, (4) “I’m happy with the physical changes that have taken place with me in recent years” and (5) “I’m strong and healthy”. Question 2 in the body image scale was recoded. The response options for all five items were measured on a four-point scale, 1 = “Doesn’t describe me at all”, 2 = “Doesn’t describe me well enough”, 3 = “Describes me quite well” and 4 = “Describes me very well”. All items of the body image scale were computed into a scale ranging from 5 to 20. The Chronbach’s alpha for the scale was good, $\alpha = 0.84$. Body image of participants was divided in two groups by median split, 1 = “Participants that scored low body image scale”,

and 2 = “Participants that scored high on the body image scale”. A high score on the body image scale indicated better body image and a low score indicated worse body image.

Body shame. Four questions were used to measure body shame from the 24 item Objectified Body Consciousness Scale (OBCS). The four questions were: (1) “When I do not have control of my weight, I think something is wrong with me”, (2) “I am ashamed when I have not bothered to look my best”, (3) “I feel like I must be a terrible person when I do not look as good as I could” and (4) “I would be ashamed if people knew my weight”. Response options for all four items were measured on a seven-point scale ranging from 1 = “Strongly Disagree” to 7 = “Strongly agree”. All items of the body shame scale were computed into a scale ranging from 4 to 28. The Chronbach’s alpha for the scale was poor, $\alpha = 0.57$. Body shame of participants was divided in two groups by median split, 1 = “Participants that scored low body shame scale, and 2 = “Participants that scored high on the body shame scale”. A high score on the body shame scale indicated higher body shame, while a low score indicated lower body shame. This was the first time that The Objectified Body Consciousness Scale (OBCS) had been translated and used in an Icelandic study.

Diet behaviour. The questionnaire included a question regarding if participants had tried to lose weight or gain weight (by going on a diet or with increased physical activity) in the last 12 months. The response options were, 1 = “I’m trying to lose weight”, 2 = “I have tried to loose weight in the last 12 months, but I am not currently trying”, 3 = “I have neither tried to lose weight nor gain weight in the last 12 months”, 4 = “I have tried to gain weight in the last 12 months, but I am not currently trying”, and 5 = I’m trying to gain weight”. Diet behaviour of participants was divided into three groups, 1 = “Trying to lose weight or had tried to lose weight”, 2 = “Neither tried to lose weight nor tried to gain weight” and 3 = “Trying to gain weight or had tried to gain weight”.

Sport participation and physical activity. Three questions were used to measure physical activity: (1) “Do you participate in sports or go to the gym”, (2) “How often do you engaged in sports (practice or compete) with a sports team”, and (3) “How often are you active physically, such that it makes you sweat or increase your breathing”. The response options for all the items were measured on a six-point scale 1 = “Nearly never”, 2 = “Once a week”, 3 = “Twice a week”, 4 = “Three times a week”, 5 = “Four to six times a week”, and 6 = “Almost every day”. All three items were combine into a single item. After being combined, physical activity of participants was divided in three groups depending on how physically active they were, 1 = “Participants with low activity”, 2 = “Participants with medium activity”, and 3 = “Participants with high activity”.

Procedure

Collection of data was conducted in April. The questionnaire was hosted at a special website. The questionnaire URL along with an information about the study was sent to psychology and sport science students of Reykjavik University through email. In the beginning of the study participants read a detailed information letter about the purpose of the study and its implementation. Participants were made aware that their answers to the questionnaire was equivalent to informed consent. After reading the inform letter participants answered an anonymous questionnaire, which took about 15-20 minutes to complete. Responses of the study were without a personal identification and therefore could not be attributed to individual participants. The study was sent to the Data Protection Authority, and the National Bioethics Committee provided the permission for the study (VSN-16-030). All procedures in the study were done according to the Icelandic Privacy and Data Protection authority guidelines for the protection of research participants. There are no risks involved in participating in the study, but if participants experience any discomfort, they were welcome

to discontinue their participation at any time. No compensation was given for participating in the study.

Data Analysis

An Independent-Sample T test was used to examine gender difference in body shame and body image. The goal was to determine whether there was a significant difference in the mean levels of body shame and body image between genders.

Crosstabs were used to compare participants who were trying to lose weight or have tried to lose weight scored higher on the body shame scale and those who had not tried to lose weight.

Factorial ANOVA was used to examine the mean levels of gender and sport participation and physical activity on body image, as well to examine the mean levels of gender and diet behaviour on body shame. The main effects and the interaction effects were examined.

Results

Table 1 shows descriptive statistics for scales used in the study. The table indicates means, standard deviations and range for body shame and body image. Out of 92 participants only 73.9% completed the body shame scale.

Table 1.

The mean, standard deviation and range for Body shame and Body image

Scale	n	M	SD	Range
Body shame	68	10.96	4.50	4-28
Body image	81	15.6	3.24	5-20

Table 2 shows descriptive statistics for measures used in the study. The table indicates sample size and percentage for gender, diet behaviour and sport participation and physical activity.

Table 2.

Sample size and percentage for gender, diet behaviour and sport participation and physical activity.

Variable	n	Percentage
Gender		
Male	30	32.6
Female	62	67.4
Diet behaviour		
Lose weight	53	59.6
Neither lose nor gain weight	24	27.0
Gain weight	12	13.5
Sport participation and physical activity		
Low	17	19.8
Medium	48	55.8
High	21	24.4

Gender difference in body shame and body image were examined. Independent Samples Test showed there was not a statistically significant difference in the mean level of body shame between genders ($t_{66} = -0.98$, $p = 0.33$). Also, there was not a statistically significant difference in the mean level of body image between genders ($t_{79} = 1.02$, $p = 0.31$).

Figure 1 shows percentage of high and low body shame of male participants who tried to lose weight, gain weight or neither tried to lose nor gain weight in the last 12 months. Male participants that scored high on the body shame scale and were trying to lose weight were 52.6% compared to 36.4% male participants that scored low on the body shame scale.

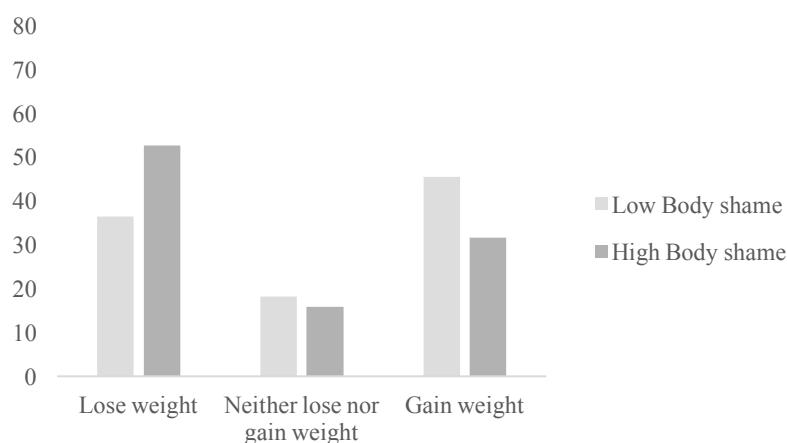


Figure 1. Male participants how tried to lose weight, gain weight or neither lose nor gain weight.

Figure 2 shows percentage of high and low body shame of female participants who tried to lose weight, gain weight or neither tried to lose nor gain weight in the last 12 months. Female participants that scored high on the body shame scale and were trying to lose weight were 62.9% compared to 70.8% female participants that scored low on the body shame scale.

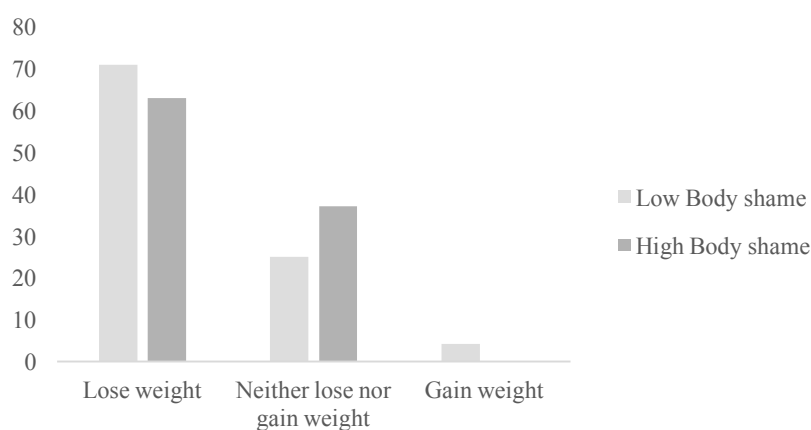


Figure 2. Female participants how tried to lose weight, gain weight or neither lose nor gain weight.

Table 3 shows the mean levels of gender and diet behaviour on body shame. A two-way ANOVA was conducted to examine main effects and interaction effects. There was not a statistically significant main effect of gender on body shame, $F(1,62) = 0.007$, $p = 0.94$.

There was also not a statistically significant main effect of diet behaviour on body shame, $F(2,62) = 1.598$, $p = 0.21$ and there was not a statistically significant interaction between the effects of gender and diet behaviour on body shame, $F(2,62) = 0.856$, $p = 0.43$.

Table 3.

The mean and standard deviation for body shame by gender and diet behaviour

Diet behaviour	Male			Female		
	n	M	SD	n	M	SD
Lose weight	10	12.0	3.71	30	11.17	4.65
Neither lose nor gain weight	4	9.25	3.86	15	12.0	4.91
Gain weight	8	8.38	3.81	1	6.0	

Table 4 shows the mean levels of gender and sport participation and physical activity on body image. A two-way ANOVA was conducted to examine main effects and interaction effects. There was not a statistically significant main effect of gender on body image, $F(1,74) = 0.043$, $p = 0.84$ but there was a statistically significant main effect of sport participation and physical activity on body image, $F(2,74) = 6.127$, $p = 0.003$. There was not a statistically significant interaction between the effects of gender and sport participation and physical activity on body image, $F(2,74) = 0.994$, $p = 0.375$.

Table 4.

The mean and standard deviation for body image by gender and sport participation and physical activity

Sport participation and physical activity	Male			Female		
	n	M	SD	n	M	SD
Low	1	12.0		15	13.3	4.71
Medium	16	15.0	3.22	28	15.79	2.63
High	10	18.3	1.50	10	16.9	2.18

Discussion

In this study the aspects of sport participation and diet behaviour and its effects on body shame and body image was examined. The first two hypothesis presented were that participants that have tried to lose weight are more likely to have higher body shame than those who have not tried to lose weight and that females are more likely to have tried to lose weight than males. These two hypothesis were not consistent with previous studies.

In this study, measures on diet behaviour showed that 59.6% participants were trying to lose weight or had tried to lose weight in the last 12 months. Regarding diet behaviour and body shame, results showed that 52.6% male participants that scored high on the body shame scale were trying or had tried to lose weight, and 36.4% male participants that scored low on the body shame were trying or had tried to lose weight. There was not a significant difference between genders when it came to body shame, females did not have higher body shame than males. Also there was not an effect of diet behaviour on body shame.

Previous studies regarding diet behaviour and body shame have shown that eating behaviours are effected by body shame (Dakanalis et al., 2015; Duarte et al., 2014; Manjrekar et al., 2013). Study done by Grigg and colleagues (1996) suggests that many adolescents that have feelings of body shame are experience eating disturbances (Grigg et al., 1996), and it seems that most previous studies on diet behaviour and body shame focus on females (Jaworowska & Bazylak, 2008; Tylka, 2004) and show there is a gender difference and that females have higher body shame than males (Knauss et al., 2008; McKinley, 1998; Pila et al., 2015). Females having higher body shame than males in previous studies might be the reason way the focus falls on females rather than males. In this study there was not a significant difference between genders regarding body shame, and that may underline the importance of focusing on both genders when it comes to body shame. Future research should point focus on males, not entirely on females regarding body shame and comparison between genders.

The third hypothesis presented was that participants with high physical activity are more likely to have a better body image and the fourth hypothesis was that males have better body image than females. The hypothesis that participants with high physical activity are more likely to have a better body image was consistent with previous studies.

In this study measures on sport participation and body image showed that 19.8% participants had low physical activity, 55.8% participants had medium physical activity and 24.4 had high physical activity. On the body image scale, 45.7% participants scored low and 54.3% participants scored high. Regarding effects of sport participation and physical activity on body image, results indicated that those participants that were more physical active had better body image then those who participated were less physical active. Furthermore, there was not a significant difference between genders when it came to body image, males did not have better body image than females. Also there was not a significant effect of gender on body image.

Previous studies show that when it comes to protective factors related to body image, sport participation and physical activity can be a factor that could contributed a better body image (Harriger et al.,2014). Varnes and colleagues (2015) demonstrated the importance of sport participation in their research, which showed that females who participated in sports had more positive body image than those who did not (Varnes et al., 2015). Although sport participation is an important factor, there can be a difference between individuals and type of sport and each sport must be examined. We can not generalize that sport participation and physical activity contribute a better body image.

This study had both strengths and limitations. The strengths of this study were that results showed different results for body shame than for body image, it indicates that these scales focus on different aspects such that body shame is not measuring the same thing as the body image scale is measuring. Because of that and also because of increased social pressure about ideal body figure and therefore the body shame scale is a very interesting measurement.

Limitations of this study were that there were only 92 participants that participated in the study and only 73.9% participants answered the body shame scale. The reason for the missing answers could have been because the questionnaire was rather long. Also the age of the participants ranged from 20 to 38, where the majority of the participants ranged from 20 to 27. Having a broader age group would have been given a more accurate results. The internal validity of the body shame scale was poor and indicates the need to test this measurement for body shame further.

Further research on body shame is needed. There is not enough of longitudinal studies, since majority of studies in this area are cross-sectional studies. More research is needed that span over a longer period to examine the effects of sport participation and diet behaviour on body shame and body image.

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