BSc in Psychology

Adolescents and Body Image
The effect of Social Media Usage, Physical Activity, and Gender

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ADOLESCENTS AND BODY IMAGE

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.

This thesis was completed in the Spring of 2020 and may therefore have been significantly impacted by the COVID-19 pandemic. The thesis and its findings should be viewed in light of that.
Abstract
In recent years research has shown that adolescents' body image has deteriorated and the reasons for it are thought to be various. The main purpose of this study is to look more closely at adolescents' body image and the possible effects of social media usage and physical activity on it. The Youth of Iceland 2018 questionnaire from the Icelandic Centre for Social Research and Analysis (ICRSA) was used to conduct the present study. Participants were students in 8th-10th grade in elementary school and their ages ranged from 12-17 years (M = 14.96). A random sample of 2140 participants was used in the study, 1037 females, 1085 males, and 18 participants who did not specify their gender. The results showed that there was a significant difference in body image between the genders and females had worse body image than males. They also revealed that more time spent on social media is associated with worse body image, although there does not appear to be a significant difference between the genders. They also revealed that the more time adolescents spent in physical activity, the more positive body image they had. However, there was not a significant difference between the genders.

Keywords: Body image, Body image concerns, Adolescents, Gender differences, Social media usage, physical activity

Útdráttur

Lykilhugtök: líkamsímynd, áhyggjur af líkamsímynd, unglingsar, kynjumar, samfélagsmiðlanotkun, hreyfing
Adolescents and body image: The effect of social media usage, physical activity, and gender

In recent years body image has acquired a lot of attention that has mirrored in the vast increase in research regarding it. The majority of studies about body image have been published since 1980 (Markey, 2010). This research has been driven by concern about the effects of negative body image and the theory that negative body image among children and adolescents poses a risk for depression and eating disturbances in adulthood (Smolak, 2004).

The term body image was first formed in 1935 by an author named Paul Schilder in The image and appearance of the human body. Schilder described body image as the image we have in our mind of our bodies. Later on, the descriptions of body image have become more specific (Slade, 1994). Today, the term body image is described as the way an individual experiences and perceives their body, how it looks, and its movements (Croll, 2005).

When going into puberty, adolescents’ bodies undergo a lot of change which can have a large effect on their body image. Self-esteem and self-evaluation are related to body image (Croll, 2005). Not only does one’s own opinion affect body image but the opinion that others have and social standards can also affect how an individual perceives their own body (Croll, 2005). Having a negative view of one’s body can cause body dissatisfaction (Holland & Tiggemann, 2016).

Most studies that focus on body image appear to agree on the fact that females have a more negative body image than males in general. In all age groups gender differences in body image appear to be present (Gestsdóttir et al., 2018). Studies have shown an increase in the number of females with negative body image. In addition to that they show that the gap between males and females is expanding, indicating that gender differences in body image are escalating (Feingold & Mazzella, 1998). In an American study the results revealed that
females were twice as likely to be dissatisfied about their body as males (Millstein et al., 2008).

Peer influence appears to affect body image negatively and it applies to both genders. Pressure from peers to fit expected appearance affects both genders and if they do not fit that appearance it results in negative body image (Kenny, O’Malley-Keighran, Molcho & Kelly, 2017).

It appears that body dissatisfaction manifests differently between males and females. Studies regarding body image have shown that males desire to be muscular while females desire to be skinny. Males are more likely to compare themselves to more muscular role models whereas females are more likely to compare themselves to friends and social standards (Jones, 2004). Furthermore, females are more prone to compare their bodies and discuss their appearance than males, causing a more negative body image (Jones, 2004). Females are more probable to be dissatisfied with their weight and appearance than males causing more negative body image. Having a negative view of one's body is related to low self-esteem (Delfabbro, Winefield, Anderson & Hammarström, 2011). Adolescents’ body image can have a vast impact on their well-being (Choi & Choi, 2016).

**Social media and body image**

In recent years, there has been a rapid increase in social media usage among adolescents. Media like Facebook, Instagram, and Snapchat have grown vastly in popularity among children and adolescents. Studies suggest that social media usage is related to a negative body image and poorer mental health among this age group (Marengo, Longobardi, Fabris & Settanni, 2018). In a study regarding this increase in social media usage, the results showed that adolescents aged 16 to 17 years spend more than twice as much time on the internet and social media as adolescents the same age did in 2006 (Twenge, Martin & Spitzberg, 2019).
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Longitudinal studies have demonstrated that the relationship between social media usage and body image concerns has gradually grown. Additionally, a comparison between individuals on social media plays a major role in the connection between social media and body image (Fardouly & Vartanian, 2016).

The social comparison theory is about how individuals compare themselves to equals. The theory divides into two categories: upward social comparison and downward social comparison. The first-mentioned category concludes that individuals evaluate themselves by comparing to others that they consider superior to them (Hogue & Mills, 2019). When individuals use upward comparison, they tend to experience more negative feelings about themselves. Adolescent females commonly use upward social comparison when comparing to others, which can result in a more negative body image. Moreover, upward comparison is also widespread on social media as individuals compare themselves to others on the internet (Hogue & Mills, 2019). The last-mentioned category assumes that individuals compare themselves to others that they consider inferior to them. When people do so they tend to experience more positive feelings about themselves (Gibbons & Gerrard, 1989). There is a connection between being exposed to upward social comparison on social media and worse self-esteem and more negative body image (Vogel, Rose, Roberts & Eckles, 2014).

Studies regarding young females and the link between social media usage and body image concerns have shown that young females compare themselves to equals and celebrities on social media. Time spent on social media platforms such as Facebook is related to worse body image (Fardouly & Vartanian, 2014).

Observation of the link between social media exposure and body image concerns among adolescent females showed that 95.9% of them had access to the internet and social media. Furthermore the results indicated that exposure to social media was significantly linked with body image concerns. The more time the adolescent females were exposed to social media the more body image concerns they had (Tiggemann & Slater, 2013).
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There is a difference in how males and females use social media. It is more common for females to use social media platforms to compare themselves to others than males. However, it is more common for males to use social media platforms for connecting and communicating to friends and family (Haferkamp, Eimler, Papadakis & Kruck, 2012).

Physical activity and body image

The definition of Physical activity is usually any kind of work of skeletal muscle that increases energy use beyond that which happens when we rest. Exercise is therefore a comprehensive concept that covers almost all activities that involve movement (Pate et al., 1995). Recommended exercise according to public health goals is 60 minutes daily of moderate to intensive physical activity for children and adolescents (Hallal, Victora, Azevedo & Wells, 2006). For adults, the recommended exercise according to public health goals is 30 minutes of moderate to intensive physical activity preferably daily (Pate et al., 1995).

In terms of body image, research has shown that physical activity has an enhancing effect on it among both genders. Numerous meta-analyses have shown that physical activity has positive effects on body image (Martin Ginis, Bassett-Gunter & Conlin, 2012). The results of a study conducted among adolescents regarding the possible effects of physical activity on body image revealed that there was a significant difference between males and females, not only in body image but also in physical activity. Females had more negative body image than males and males were more physically active than females (Kirchengast & Marosi, 2007). In a study regarding body image concerns and physical activity the results showed that females partook in physical activity at lower rates than males. The results also indicated that body image concerns might be a factor in females’ lower rates of participation in physical activity (Slater & Tiggeman, 2011).

Results of a study where the participants underwent an exercise intervention show that the participants’ body image improved after it though their shape did not. Indicating that
physical activity can enhance an individual's body image without changing his or her shape (Appleton, 2012). Studies that contain exercise interventions are consistent in that people experience their body more positively after the intervention than before it. These results indicate physical activity is linked to positive body image (Hausenblas & Fallon, 2006).

Frisén and Holmqvist conducted a study to find what characterized those adolescents who had a positive body image. The results revealed that the majority of the participants who had a positive body image were physically active and experienced joy when exercising (2010).

Studies concerning body image, body mass index, and physical activity on adolescents revealed that females had a more negative body image than the males. The results also revealed that a positive body image was a predictor for physical activity regardless of BMI (Kantanista, Osiński, Borowiec, Tomczak & Król-Zielinska, 2015).

As mentioned above, adolescents' well-being can be impacted by their body image (Choi & Choi, 2016), and therefore it is important to research what can affect adolescents' body image. The purpose of the present study is to examine the possible effect of social media usage, physical activity, and gender on body image among Icelandic adolescents. The hypotheses in this study were two. The first hypothesis was that more hours spent on social media would be related to more negative body image and the relationship would be stronger among females than males. The second hypothesis was that more hours spent on physical activity were related to a more positive body image.
Method

Participants

Participants of the study were students in 8th-10th grade in all elementary schools in Iceland which were present in class when the survey was conducted. The participants were in total 10,563 and the response rate was 84%. The division of valid responses was 3606 from eight grade, 3523 from ninth grade, and 3312 from tenth grade and 122 from participants who did not reveal what grade they were in. In this study, a random sample of 2140 participants was used. The ratio between males and females was rather equal and the division of the genders was 1037 (48.9%) males and 1085 (51.1%) females. The participants were from the age 12 to the age 17 (M = 14.96, SD = 0.83). The participants did not receive any payment for their participation. Parents or guardians of the participants received an e-mail before the questionnaire was submitted as they could refuse participation on behalf of their children but if they did not, then it was considered that they had given their consent.

Measures

The Youth in Iceland 2018 questionnaire by ICRSA was the main measuring tool. The questionnaire was in a total of 83 questions in multiple sections on 30 pages and was about the well-being of students in 8th – 10th grade. A very detailed questionnaire is submitted to students every year. The questions in the questionnaire are formulated by social science professionals and are developed year by year. The measures used for this study were body image, social media usage, physical activity, and gender differences. These measures are defined here beneath.

Background Information

Gender. The question “Are you male or female?” was used to determine the gender of the participant. The answer options of the question were on a two-point scale (1 = Male, 2 = Female).
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Social media usage. The question “How much time on average do you spend every day on being on Social media on the internet e.g. Facebook, Snapchat, Twitter, Instagram, Vine, Tumblr, WhatsApp, Skype etc.?” was used to determine social media usage. The answer options of the question were on an eight-point scale (1 = Almost no time, 2 = half to one hour, 3 = about one hour, 4 = about two hours, 5 = about three hours, 6 = about four hours, 7 = about five hours, 8 = six hours or more. The scale was divided into three groups, the first group “Nearly no time” was made from the answer option 1, the second group “half an hour to two hours” was made from answer options 2, 3 and 4, the third group “three hours or more” was made from the answer options 5, 6, 7 and 8.

Body image. To determine body image there were used five questions from the Body and Self-Image subscale of the Offer Self-Image Questionnaire (OSIQ) (Offer, Ostrov & Howard, 1977). Participants were asked how the following statements applied to them: “When I think of how I will look in the future I am happy”, “Most of the time I feel unattractive or unappealing”, “I am happy about my body”, “I am happy about the changes that have occurred to me recent years”, “I think that I am strong and healthy”. The answer options of the questions were on a four-point scale (1 = describes me well, 2 = describes me rather well, 3 = does not describe me well enough, 4 = does not describe me at all). To make all the items point in the same direction the statement “Most of the time I feel unattractive or unappealing” was recoded (1 = does not describe me at all, 2 = does not describe me well enough, 3 = describes me rather well, 4 = describes me well). The body image variable was made from all of the five statements mentioned above computed together, higher score meaning more positive body image. The internal consistency of the scale was acceptable (Cronbach’s $\alpha = 0.82$).

Physical activity. The question “How often do you exercise physically so that you sweat or your breath shortens?” was used to determine the physical activity variable. The answer options of the question were on a six-point scale (1 = almost never, 2 = once a week,
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3 = two times a week, 4 = three times a week, 5 = four times a week, 6 = almost every day).

The scale was divided into three groups, the first group “once a week or less” was made from answer options 1 and 2, the second group “two to three times a week” was made from answer options 3 and 4 and the third group “four times a week or more” was made from the answer options 5 and 6.

Procedure

The data on which this report is based on is from a survey named Youth in Iceland and was conducted by the Icelandic Centre for Social Research & Analysis (ICSRA) in February 2018. The questionnaire Youth in Iceland was submitted to all students in 8th – 10th grade in elementary school. The participants of the study were all the students that attended school the day it was submitted. The execution and processing of the study were carried out by ICSRA. The questionnaires were sent to all the elementary schools in Iceland where the teachers made sure to submit them according to clear instructions from the ICSRA. All participants answered the questionnaire inside their classroom. It was emphasized to the participants to neither write their name nor their social security number on the questionnaires so they could not be traceable back to them. Participants were asked to answer all the questions conscientiously to the best of their ability and ask for assistance from the teacher if something needed to be explained. The students were asked to put their answers in an unmarked envelope that came with the questionnaire after finishing it and hand them over to their teacher. Participants answered the questionnaire voluntarily and could discontinue participation at any time.

Data analysis

The present study was cross-sectional research and there were used various methods to find out the effect that time spent on social media and physical activity had on adolescents' body image and if there was a difference between genders. The dependent variable was body image and the independent variables were social media usage (time spent on social media
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daily) and physical activity (time spent on exercise weekly) and gender. The descriptive statistics were computed to offer information about the variables. Independent samples t-test was computed to evaluate the main differences in body image by gender. To compute the interaction between body image, social media usage, physical activity, and gender, Factorial analysis of variance (FANOVA) test was used. Version 26 of Statistical Package for Social Sciences (SPSS) was used to analyze the data in the study. The level of significance was \( \alpha = 0.05 \).

Results

The mean score of the body image scale was 10.26 with the minimum score of 0 and the maximum score of 15 (SD = 3.44). Females had the mean score of 9.48 (SD = 3.51) and males had the mean score of 11.04 (SD = 3.18) in body image. There was a significant difference in the scores between the genders \( t(1972) = 10.36, p < .001 \). The mean score of the social media variable was M = 2.29 (SD = 0.59). The mean score of the physical activity variable was M = 2.35 (SD = 0.77). The descriptive statistics of the body image, social media usage, and physical activity variable are shown in table 1.

Table 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body image</td>
<td>1986</td>
<td>0</td>
<td>15</td>
<td>10.26</td>
<td>3.44</td>
</tr>
<tr>
<td>Social media</td>
<td>1978</td>
<td>1</td>
<td>3</td>
<td>2.29</td>
<td>0.59</td>
</tr>
<tr>
<td>Physical activity</td>
<td>1987</td>
<td>1</td>
<td>3</td>
<td>2.35</td>
<td>0.77</td>
</tr>
</tbody>
</table>

When asked about the amount of time spent on social media on average on a daily basis, 7.3\% of participants (\( N = 144 \)) claimed to spend nearly no time on social media while
56.4% ($N = 1115$) spent half an hour to two hours and 36.3% of participants spent three hours or more on social media on daily basis ($N = 719$).

When asked about the amount of time spent on physical activity a week on average 18.3% of participants ($N = 364$) claimed that they exercised once or less frequently per week, 28.3% participants ($N = 563$) said that they exercised two to three times per week and 53.3% of participants ($N = 1060$) said that that exercised four times or more often per week.

To examine the effect of social media usage and physical activity on body image, a Factorial Anova (FANOVA) test was performed and the results revealed that social media usage had a direct effect on body image ($F (2, 1838) = 12.97, p < .001$. Bonferroni post-hoc test revealed that those who spent 3 hours or more daily on social media had significantly worse body image than those that spent less time than that on social media ($p < 0.001$), but did not confirm significant differences between those who spent half an hour to two hours on social media and those who spent nearly no time. There was not a significant interaction between social media usage and gender ($F (2, 1871) = 1.05, p = .351$, indicating that the effects of social media use on body image was similar for males and females.

The results in table 2 showed that females that spent nearly no time on social media daily had the lowest score in body image ($M = 8.55$) and that females that spent half an hour to two hours on social media daily had the highest score in body image ($M = 10.07$). However, the females that spent three hours or more on social media daily had a slightly higher score in body image than those that spent nearly no time on social media daily ($M = 8.86$). The results also showed that males that spent nearly no time on social media daily had the lowest score in body image ($M = 8.55$) and that males that spent half an hour to two hours on social media daily had the highest score in body image ($M = 11.34$). However, the males that spent three hours or more on social media daily had a slightly higher score in body image than those that spent nearly no time on social media daily ($M = 10.55$). Results revealed that Physical activity had a direct effect on body image ($F (2, 1838) = 45.08, p < .001$).
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Table 2

*Means and standard deviations for time spent on social media and its effect on body image by gender*

<table>
<thead>
<tr>
<th></th>
<th>Body image</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nearly no time</td>
<td>10.49</td>
<td>3.78</td>
<td>99</td>
</tr>
<tr>
<td>Half an hour to two hours</td>
<td>11.34</td>
<td>2.95</td>
<td>562</td>
</tr>
<tr>
<td>Three hours or more</td>
<td>10.55</td>
<td>3.46</td>
<td>250</td>
</tr>
<tr>
<td>Total</td>
<td>11.03</td>
<td>3.21</td>
<td>911</td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nearly no time</td>
<td>8.55</td>
<td>4.11</td>
<td>31</td>
</tr>
<tr>
<td>Half an hour to two hours</td>
<td>10.07</td>
<td>3.33</td>
<td>506</td>
</tr>
<tr>
<td>Three hours or more</td>
<td>8.86</td>
<td>3.57</td>
<td>429</td>
</tr>
<tr>
<td>Total</td>
<td>9.48</td>
<td>3.51</td>
<td>966</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nearly no time</td>
<td>10.03</td>
<td>3.93</td>
<td>130</td>
</tr>
<tr>
<td>Half an hour to two hours</td>
<td>10.74</td>
<td>3.20</td>
<td>1068</td>
</tr>
<tr>
<td>Three hours or more</td>
<td>9.48</td>
<td>3.62</td>
<td>679</td>
</tr>
<tr>
<td>Total</td>
<td>10.23</td>
<td>3.46</td>
<td>1877</td>
</tr>
</tbody>
</table>

To examine the effect of social media usage and physical activity on body image, a Factorial Anova (FANOVA) test was performed and the results showed that Physical activity had a direct effect on body image ($F(2, 1838) = 45.08, p < .001$). Bonferroni post-hoc test revealed that the participants that exercised four times a week or more often had a significantly more positive body image than those that exercised fewer times a week ($p < .05$). There was not a significant interaction between physical activity and gender ($F(2, 1883) = 0.90, P = 0.914$), indicating that the relationship between physical activity and body image is similar for males and females.
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Results in Table 3 showed that females that exercised once a week or less frequently had the lowest score in body image ($M = 7.90$) and that females that exercised four times a week or more frequently had the highest score in body image ($M = 10.46$).

Results also showed that males that exercised once a week or less frequently had the lowest score in body image ($M = 9.27$) and that males that exercised four times a week or more frequently had the highest score in body image ($M = 11.97$).

Table 3

*Means and standard deviations for time spent on physical activity and its effect on body image by gender*

<table>
<thead>
<tr>
<th></th>
<th>Body image</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$N$</td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week or less</td>
<td>9.27</td>
<td>3.37</td>
<td>162</td>
</tr>
<tr>
<td>Two or three times a week</td>
<td>10.26</td>
<td>3.20</td>
<td>240</td>
</tr>
<tr>
<td>Four times a week or more</td>
<td>11.97</td>
<td>2.77</td>
<td>524</td>
</tr>
<tr>
<td>Total</td>
<td>11.05</td>
<td>3.19</td>
<td>926</td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week or less</td>
<td>7.90</td>
<td>3.67</td>
<td>182</td>
</tr>
<tr>
<td>Two or three times a week</td>
<td>8.87</td>
<td>3.39</td>
<td>292</td>
</tr>
<tr>
<td>Four times a week or more</td>
<td>10.46</td>
<td>3.22</td>
<td>489</td>
</tr>
<tr>
<td>Total</td>
<td>9.49</td>
<td>3.51</td>
<td>963</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week or less</td>
<td>8.54</td>
<td>3.59</td>
<td>344</td>
</tr>
<tr>
<td>Two or three times a week</td>
<td>9.50</td>
<td>3.37</td>
<td>532</td>
</tr>
<tr>
<td>Four times a week or more</td>
<td>11.24</td>
<td>3.09</td>
<td>1013</td>
</tr>
<tr>
<td>Total</td>
<td>10.26</td>
<td>3.45</td>
<td>1889</td>
</tr>
</tbody>
</table>
Discussion

The purpose of the present study was to try to provide insight into the possible effect of social media usage and physical activity on the body image of Icelandic adolescents. The study aimed to find out if more hours spent on social media were related to more negative body image and if this relationship was worse among females. Additionally, it was to find out if more hours spent on exercise were related to a more positive body image.

The results revealed that females had the mean score of 9.48 ($SD = 3.51$) whereas males scored considerably higher with the mean score of 11.04 ($SD = 3.18$) in body image. Females had a significantly worse body image than males which is in line with the findings of previous research (Gestsdóttir et al., 2018; Delfabbro, Winefield, Anderson & Hammarström, 2011). They additionally showed that more time spent on social media was related to more negative body image which partially supports the first hypothesis and is consistent with previous research (Marengo, Longobardi, Fabris & Settanni, 2018). However, there was not a significant interaction effect between the genders which means that social media usage did not have a worse impact on females’ body image than males’ body image and therefore does not fully conform to the hypothesis.

The results showed that both females ($M = 8.55$) and males ($M = 10.49$) that spent nearly no time on social media had the lowest score in body image. This means that it had a worse impact to spend nearly no time on social media daily than to spend 3 hours or more which is an interesting outcome. Females ($M = 10.07$) and males ($M =11.34$) that spent half an hour to two hours on social media on daily average had the highest score in body image. These results indicate that moderate social media usage does not have a bad impact on adolescents' body image.
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The results also showed that the more frequently the participants exercised during the week, the more positive their body image was, which is consistent with previous findings (Martin Ginis, Bassett-Gunter & Conlin, 2012). Which also supports the second hypothesis. There was not a significant interaction effect between the genders which means that physical activity has an equally good effect on both genders. This means that it could be useful to use exercise as an intervention for those who have a negative body image. However, long term effects of a physical activity intervention on body image are not known.

In a study conducted on adolescent females the results after a six-week physical activity intervention revealed that body image significantly improved. However, these effects were not sustained after the intervention (Burgess, Grogan & Burwitz, 2006). These results indicate that physical activity interventions could be used to improve body image in the short term, but regular exercise is important to maintain this effect.

Previous research shows that males are more likely to be more physically active than females (Kirchengast & Marosi, 2007; Slater & Tiggeman, 2011) and that the reason for lower rates of participation in physical activity might be body image concerns (Slater & Tiggeman, 2011). Furthermore, previous research has also shown that exercise has a good effect on body image (Martin Ginis, Bassett-Gunter & Conlin, 2012), and therefore it is important to try to encourage adolescents to exercise and be physically active especially those who are concerned about their body image.

It is important to continue researching the body image of adolescents as recent years' research shows that it has deteriorated over the years. Moreover, it is important to examine what affects body image to reverse this development. It is necessary to look at males' body image even further because the majority of the research about body image focuses on females. Although females are generally considered to have worse body image than males, research shows that body image concerns are increasing among both genders. However, research has shown that body image concerns are dissimilar between the genders (Jones,
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2004) which might cause a bias in the research results resulting in females to score higher in body image concerns. According to McCabe & Ricciardelli many studies regarding body image use questionnaires with questions that are more relevant to females than males which could lead to bias in the results (2012). Therefore it is important to use standardized questionnaires that apply to both genders to get legitimate results.

Deteriorating body image of adolescents is a worry, so it is important to look at what causes negative body image to be able to assist adolescents.

The well-being of adolescents can be largely impacted by their body image and that applies to both genders. Being dissatisfied with one’s body can be linked to depression and poor self-esteem. The results in a study conducted on American and Korean adolescents showed that body dissatisfaction was a predictor for more depressive symptoms (Choi & Choi, 2016).

The well-being of teenagers is therefore an important reason to study their body image and try to improve it. Improving body image can include regular exercise and keeping social media usage within healthy limits.

The study had its limitations and they are important to note. First off the study used a questionnaire and therefore there is a risk that participants did not answer the questions truthfully even though they were asked to, and this could cause inaccuracy in the results. Additionally, the variables used in the study (Body image, Social media usage & Physical activity) were self-reported which means that there is a possibility that they are biased. Furthermore, the social media variable was created from a question that asked participants how much time they spent on social media daily on average, but it can often be hard to estimate the quantity of time spent on social media on a daily basis and sometimes people don't realize how much time they spend. However, some smartphones offer a feature that tells the user how much time is spent on screen time, this feature offers the user insight on how much time he or she spends on social media, etc. This feature could help people to keep
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social media usage within healthy limits. At last, the data used in the study was cross-sectional and thus does not supply information on casual relationships. These limitations should be kept in mind for future research.

Despite these limitations the present study also had its strengths which were that the study reached out to many participants or all students in the 8th – 10th grade who attended school the day the questionnaire was submitted. The study's response rate was high and the overall national response rate was about 84%. The sample used in the present study was large (N = 2140) and the gender ratio was close to even (48.9% males and 51.1% females) therefore it is possible to estimate that the sample is descriptive of the population. The measuring tool used to estimate the body image variable is a well-known standardized measurement (Offer et al., 1977) and had good reliability in the present study.

As mentioned above, it is important to not only keep on researching adolescents' body image but also their social media usage as it is increasing and changing rapidly. It is important to tend to adolescents and ensure their well-being and one way to do that is to help them improve their body image. Most studies regarding body image focus on a negative body image and the causes of it. However, to help improve adolescents' body image it could be useful to research positive body image and what contributes to it.
References


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