BSc in Psychology

Body Image and Self-Esteem among Adolescents in Iceland: The effect of Social Media Use and differences between Genders

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Abstract

Research on factors influencing adolescents body image and self-esteem has increased over the years. Due to major technology changes in recent years, research on social media use and its effect on body image and self-esteem is lacking. This study attempts to find out the influence that social media use has on adolescents body image and self-esteem. Data from the survey Youth in Iceland 2018 was used in this study. The data collection was supervised by the Icelandic Centre for Social Research and Analysis (ICRSA). A random sample of 2140 participants was used in this study, 1042 males, 1070 females and 28 participants who did not reveal their gender. The age range was from 12-17 years (M = 14.9).

Results revealed that: 1) Those who spend on average more time on social media report themselves having both lower body image and lower self-esteem. 2) There was a significant difference in body image between genders, where social media use had a more negative effect on girls than boys. 3) There was a difference between the effect social media use has on adolescents self-esteem, where girls were influenced more negatively, although the difference was not significant.

Keywords: Body Image, Self-Esteem, Social Media Use

Útdráttur


Lykilhugtök: likamsímynd, sjálfstrauðt, samfélagsmiðlanotkun
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.

Body image is defined as the mental picture of one’s body that is formed in their mind, it is the way in which their body appears to themselves (Schilder 1935). Body image is involved with one’s feelings, attitudes, perceptions and is influenced by the adoption of social standards (Rodriguez Aguilar et al. 2010).

Self-esteem has been widely discussed for a long period of time and numerous researches and studies have been conducted to try to understand the underlying reasons for high or low self-esteem. Self-esteem reflects a subjective assessment of the value one considers himself to be (Rosenberg, 1965) and is also defined as an internal psychological monitor, general evaluation, and appraisal of one’s worth (Leary & Baumeister, 2000). Individuals can have a positive or negative idea about themselves and their self-esteem is based according to that idea (Berk, 2007).

A large body of literature has demonstrated an interaction effect between body image and self-esteem. Results of previous studies indicate that self-esteem has a direct, significant relationship with body image perception where those who report themselves having a positive body image also report themselves having higher self-esteem (Duchesne et al., 2016; Gillen, 2015; Morin, Maiano, Marsh, Janosz, & Nagengast, 2011; Polce-Lynch, Myers, Kliewer, & Kilmartin, 2001; Tsang, 2017; van den Berg, Mond, Eisenberg, Ackard, & Neumark-Sztainer, 2010 2010). Results of previous studies have shown that there is a gender difference when it comes to body image and self-esteem where girls tend to have both lower body image (Knauss, Paxton, & Alsaker, 2007; Lawler & Nixon, 2011; Rodriguez Aguilar et al. 2010) and lower self-esteem than boys (Bleidorn et al., 2016; Sprecher, Brooks, & Avogo, 2013).

In the last decade, social media websites and apps, such as Facebook, Instagram, WhatsApp, Twitter, et cetera have provided a digital pathway that has the ability to form and
maintain virtual communities online. Social media usually takes place online via websites or apps that bring people together, facilitate collaboration and communication. It serves as a new form of socialization, and when successful it can be integral to the daily lives of millions of people (Obar & Wildman, 2015).

Social media use can have both a positive and negative effect on adolescents. A study by Bonetti et. al (2010), indicates that online communication encourages lonely and socially anxious adolescents to engage in self-disclosure with their peers, which enhances their feelings of social connection and identity exploration. Research by Allen et al. (2014) suggest that social media use can enhance belonging, psychosocial wellbeing and that it can help with identity development.

A study in Canada with 753 participants ($M$ age = 14.1 years) indicates that adolescents who use Social Networking Sites for more than two hours per day are more likely to have an unmet need for mental health support due to psychological distress (Sampasa-Kanyinga & Lewis, 2015). Results from recent studies indicate that greater levels of social media use are significantly associated with increased depressive symptoms among adolescents (Lin et al., 2016), significantly associated with disturbed sleep (Levenson, Shensa, Sidani, Colditz, & Primack, 2016) and self-objectifying social media use predicts greater body shame among youth (Salomon & Brown, 2018).

A number of studies addressed the negative impact social media use has on adolescents body image (Salomon & Brown, 2018) and self-esteem (Hawi & Samaha, 2017; Jan, Soomro, & Ahmad, 2017). Recent research by Salomon et. al (2018) with a sample of 142 seventh-grade students, from middle school, indicates that early adolescents spend approximately four to six hours using social media each week where social media use predicted stronger body shame among girls than boys. Another study has shown that adolescents that use social media for more than two hours per day report themselves having significantly greater dissatisfaction with their body image compared to those who spend less
time on social media (Marengo, Longobardi, Fabris, & Settanni, 2018).

Body image appears in different manifestations. Young adolescent girls tend to compare themselves to other people, such as peers and celebrities on social media and they do express a pressure to look a certain way (Burnette, Kwitowski, & Mazzeo, 2017). Research by Galioto and Crowther (2013), showed that increased body image dissatisfaction among undergraduate males was significantly associated with exposure to both muscular and slender media images. Jones and Crawford (2005) did research about body dissatisfaction among adolescent boys, where weight concerns represent a distinct pathway to body dissatisfaction, boys who are heavier are more likely to express concern about their weight and their dieting and therefore endorse greater body dissatisfaction. Swami et al. (2010) did extensive research where 7,434 participants from ten major world regions took part, the results indicate that media establishes cultural standards for ideal body types that emphasizes the importance of muscularity for boys and thinness for girls that are often unrealistic. They also found a significant cross-regional difference in the ideal female figure and body dissatisfaction.

Recent studies have shown an interaction effect between social media use and self-esteem, where lower self-esteem has been linked with more social comparison (Andreassen, Pallesen, & Griffiths, 2017; Vogel, Rose, Roberts, & Eckles, 2014). Hawi et al. (2016) found a difference in self-esteem between genders, where addictive social media use has more effect on self-esteem among females compared to males. Another recent study with a sample of 2931 participants, mean age 16.6 years, showed that adolescents reported themselves using the internet and social media around 20 hours on average per week, or around three hours per day. The results indicate that more internet and social media use predicts lower self-esteem (Bányai et al., 2017). Adolescents are at risk of problematic social media use and Bányai et al. (2017) declare a major concern, where they argue that social media use should be targeted by school-based prevention and intervention programs.
As previous research has shown, social media has an effect on body image and self-esteem among adolescents (Hawi & Samaha, 2017; Jan, Soomro, & Ahmad, 2017; Salomon & Brown, 2018). However, due to rapid technology changes further research is needed, the aim of the present study is to observe the effects of more time spent on social media and its relation to adolescents body image and self-esteem and possible difference between genders. The hypotheses of the research are following

(1): Does more time spent on Social Media affect Body image in a negative way. If there is an effect is there a difference between boys and girls.

(2): Does more time spent on Social Media predict low Self-Esteem. If there is an effect is there a difference between boys and girls.

**Method**

**Participants**

Data from the survey *Youth in Iceland 2018* were used in this study. The data collection was supervised by the Icelandic Centre for Social Research and Analysis (ICRSA). The survey was conducted in February 2018 for all students in 8-10th grade in elementary school in Iceland. The total response rate at nation level was 84.0%, or in total 10,441 students. A random sample of 2140 participants were used in this study, 1042 males (48.7%), 1070 females (50%) and 28 (1.3%) participants did not reveal their gender. The age range was from 12-17 and the mean age was 14.9 years ($SD = .828$). Participants did not get any award, payment or course credit for participating.

**Measures**

The main measuring instrument was the ICRSA questionnaire. The questionnaire was thorough and had 83 questions with different subcomponents on 32 pages. The questionnaire has been developed and adapted year by year and takes into account the changes in society between years, social science professionals with strict requirements develop the questionnaire
to ensure reliable results and that reliability and validity were always in forefront. For the present study four measures were used including self-esteem, body image, time spent on social media and gender difference. These measures are described below.

**Background information.** Participants were asked about their age and gender.

**Age.** The variable age was assessed using the question “*In what year were you born?*”. The question was on a six-point scale: 1 = 2001, 2 = 2002, 3 = 2003, 4 = 2004, 5 = 2005 and 6 = 2006.

**Gender.** The variable gender was assessed using the question “*Are you a boy or a girl?*”. The question was on a two-point scale with the possible given answers: 1 = boy, 2 = girl.

**Self-esteem.** Rosenberg Self-esteem scale (RSES) was used to measure the variable Self-esteem (Rosenberg, M., 1965). The Rosenberg Self-esteem scale has ten statements, five positively phrased statements (1) “*On the whole, I am satisfied with myself and I feel that I have a number of good qualities*”, (2) “*I feel that I have a number of good qualities*”, (3) “*I am able to do things as well as most other people*”, (4) “*I feel that I’m a person of worth, at least on an equal plane with others*”, (5) “*I take a positive attitude toward myself*” and five negatively phrased statements (1) “*At times I think I am no good at all and I feel I do not have much to be proud of*”, (2) “*I feel I do not have much to be proud of*”, (3) “*I certainly feel useless at times*”, (4) “*I wish I could have more respect for myself*”, (5) “*All in all, I am inclined to feel that I am a failure*”. The statements are all measured on a four-point Likert scale (1 = Strongly agree, 2 = Agree, 3 = Disagree, and 4 = Strongly disagree). The positively phrased statements were reverse scored (1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree). The ten statements were computed together that made the variable Self-esteem. Score took value from 0-30, with higher score corresponding higher self-esteem. The scale had high reliability (Cronbach’s $\alpha = .90$), indicating good internal consistency.

**Body-image.** The variable *Body image* was comprised from five statements relating
to body image from the Body and Self-Image subscale of the Offer Self-Image Questionnaire (OSIQ) (Offer, Ostrov, & Howard, 1977). The statements were following, (1) “When I think about how I will look in the future, I am happy”, (2) “I often think that I am ugly and unattractive”, (3) “I am happy with my body”, (4) “I am happy with the physical changes that have occurred to my body in the last few years”, (5) “I think that I am strong and healthy”. The statements were all measured on a four-point scale (1 = Describes me really well, 2 = Describes me quite well, 3 = Does not describe me well enough, and 4 = Does not describe me at all). The positive phrased statements were reversed scored (1 = Does not describe me at all, 2 = Does not describe me well enough, 3 = Describes me quite well, 4 = Describes me really well). The five statements were computed together that made the variable Body image. Score took value from 0-15, with higher score corresponding higher body image. The scale had acceptable internal consistency (Cronbach’s α = .82).

**Time spent on social media.** The variable *Time spent on social media* was measured with the question “How much time on average do you spend every day on social media, e.g. Facebook, Snapchat, Twitter, Instagram, Vine, Tumblr, WhatsApp, Skype etc”. The question was measured on an eight-point scale (1 = Almost no time, 2 = Half an hour to an 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 split into three groups, the answer options 1 and 2 made the group “Less than an hour per day”, answer options 3 and 4 made the group “One to two hours per day” and answer options 5 to 8 made the group “Three hours or more a day”.

**Procedure**

The survey was conducted in February 2018 for all students in 8th-10th grade in elementary school in Iceland. Questionnaires from the Icelandic Centre for Social Research and Analysis (ICRSA) were sent to all elementary schools in the country where teachers agreed to submit them by clear instructions. All students who attended class the day that the
survey took place answered the questionnaire. Each questionnaire had an unmarked envelope attached that participants put their questionnaire into after filling it out. The students got detailed instructions that they did not have to answer the questionnaire and that they could quit at any time. Participants were asked not to write their name or social security number on the questionnaires, so it would be impossible to trace the answers back to them. At last participants were kindly asked to answer all questions to the best of their ability and contact their teacher if they needed assistance towards answering any questions.

**Design and data analysis**

The following study was a cross-sectional research, several methods were used to explore the impact time spent on social media has on adolescents self-esteem and body image, and if there was a gender difference. Descriptive statistics were calculated to provide information about all variables used in the study, Factorial analysis of variance (FANOVA) test was used to calculate the interaction between variables. All statistical analysis was performed with SPSS Statistics version 25. For all analysis level of significance was set at $\alpha = 0.05$.

**Results**

The Descriptive Statistics for all the variables in the study are shown in table 1. “Self-esteem” among participants was ranged from 0 to 30 with the mean $21.44$ (SD = 6.79). The variable “body image” ranged from 0 to 15 with the mean score of $M = 10.21$ (SD = 3.50). The descriptive statistics show that the mean of social media use was $3.98$ (SD = 1.94) that indicated that participants spend on average two hours per day on social media.
Table 1

Descriptive Statistics for all variables in the study

<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>Self-esteem</td>
<td>1936</td>
<td>0</td>
<td>30</td>
<td>21.44</td>
<td>6.79</td>
</tr>
<tr>
<td>Body image</td>
<td>1984</td>
<td>0</td>
<td>15</td>
<td>10.21</td>
<td>3.50</td>
</tr>
<tr>
<td>Social media use</td>
<td>1983</td>
<td>1</td>
<td>8</td>
<td>3.98</td>
<td>1.94</td>
</tr>
</tbody>
</table>

The means and standard deviations for gender difference regarding time spent on social media and its effect on body image and self-esteem are shown in table 2. The results indicate that those who spend less than one hour on average per day reported higher body image (M = 10.66, SD = 3.41) and self-esteem (M = 22.25, SD = 6.62) compared to those who spend on average three hours or more per day on social media who report having both lower body image (M = 9.41, SD = 3.66) and lower self-esteem (M = 19.82, SD = 6.99).

Table 2

Means and Standard Deviations for gender difference regarding time spent on social media and its effect on Body Image and Self-Esteem

<table>
<thead>
<tr>
<th>Boys</th>
<th>Body Image</th>
<th>Self-Esteem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Less than one hour</td>
<td>10.95</td>
<td>3.19</td>
</tr>
<tr>
<td>One to two hours</td>
<td>11.24</td>
<td>3.10</td>
</tr>
<tr>
<td>Three hours or more</td>
<td>10.73</td>
<td>3.28</td>
</tr>
<tr>
<td>Total</td>
<td>11.01</td>
<td>3.18</td>
</tr>
<tr>
<td>Girls</td>
<td>Body Image</td>
<td>Self-Esteem</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Less than one hour</td>
<td>10.07</td>
<td>3.76</td>
</tr>
<tr>
<td>One to two hours</td>
<td>9.99</td>
<td>3.29</td>
</tr>
<tr>
<td>Three hours or more</td>
<td>8.73</td>
<td>3.66</td>
</tr>
</tbody>
</table>
The effects of social media use on body image are shown in Figure 1. FANOVA shows that more time spent on social media per day has a negative effect on body image $F(2.1867) = 12.579, p < 0.001$. According to Bonferroni post-hoc test, those who spend 3 hours or more on social media per day have a worse body image than those who spend 1-2 hours daily on social media ($p < 0.001$). There was a significant interaction effect between gender and average time spent daily on social media on body image $F(2.1867) = 3.794, p < 0.023$, which indicates that the negative effect of social media on body image is different for boys and girls.

The interaction effects of Social media use and Body Image

The interaction effects of social media use on self-esteem are shown in Figure 2. The results show that more time spent daily on social media has a decreasing effect on adolescents’ self-esteem $F(2.1822) = 17.025, p < 0.001$. According to the Bonferroni post-hoc test, those who spend 3 hours or more have lower self-esteem than those who spend 1-2 hours on social media ($p < 0.001$). There was not a significant interaction effect between
genders and time spent on social media and their self-esteem $F(2.1822) = 2.849$, $p = .058$, indicating that the negative effect of social media on self-esteem is similar for boys and girls.

![Figure 2](image)  
**Figure 2.** FANOVA, the interaction effects of Social media use and Self-Esteem.

**Discussion**

The present research study attempted to offer insight into the potential impact social media use has on body image and self-esteem among Icelandic adolescents. The main aim of the study was to investigate whether more time spent on social media on average could predict negative body image and lower self-esteem among adolescents and if there was an interaction effect between boys and girls.

Results from Factorial Anova (FANOVA) revealed that more time spent on average on social media predicted negative body image, there was a significant interaction effect between boys and girls, whose increased social media use had a greater impact on girls body image, as been stated in previous studies, which supports hypothesis 1. These findings are consistent with previous researches whose have shown that more time spent on social media has negative effect on body image (Marengo, Longobardi, Fabris, & Settanni, 2018; Swami et al., 2010) and it tends to affect girls more than boys (Salomon et. al, 2018). It is crucial to investigate the gender difference further and find the factors that causes body image...
dissatisfaction. As mentioned earlier, body image can have multiple manifestations, as previous research by Swami et al. (2010) has shown media establishes cultural standards for ideal body types, that can often be unrealistic.

The results from Factorial Anova (FANOVA) revealed as well that more time spent on average on social media predicted lower self-esteem among adolescents which is consistent with previous research (Vogel, Rose, Roberts, & Eckles, 2014), and supports hypothesis 2. However, there was not a significant difference between boys and girls, indicating that the negative effect of social media on self-esteem is similar between genders, and therefore is inconsistent with previous research which indicates that social media use has a more negative effect on girls self-estees than boys (Hawi et al., 2016). The same goes for self-esteem, it is important to investigate the gender difference further and find the factors that are affecting adolescents self-esteem to have the possibility for an appropriate intervention.

Overall, this study adds to the literature and demonstrates that more time spent on social media can predict a more negative body image and lower self-esteem compared to those who spend less time on social media. Adolescents that spend three hours or more on average every day on social media report themselves having both lower body image and lower self-esteem than those who spend less time on social media.

The strengths of the present study are that the research was a cross-sectional study and therefore presents the whole population. The sample size of participants in the present study was large ($N = 2140$), equally gender represented and with a total of $84.0\%$ response rate at the nation level, that high response rates increases the studies external validity and therefore makes it easier to generalize results over the whole population.

The present study is not without its limitations, by using a questionnaire there is a risk that participants answer dishonestly and can therefore lead to inaccuracy in answers. The main variables – body image, self-esteem and social media use – were self-reported and
might therefore be biased. The social media use variable is especially complicated since it can be difficult to realize the total amount of time spent on social media on average. There has been a recent update in smartphone technology that reliably measures screen time use and time spent on social media. The update can overcome that limitation and therefore helps users to get an accurate picture on their time spent using their phone. Cross-sectional data were used for analyses and therefore it was not possible to establish a causal relationship between variables. These limitations should be kept in mind regarding the present study. It is urgent to take adolescents problematic social media use seriously and as Bányai et al. (2017) argued social media use should be targeted by school-based prevention and intervention programs to promote a healthy psychological wellbeing among adolescents.

Future studies can have these limitations described above in mind. The form and structure of social media usage is changing rapidly, and it is crucial to investigate this issue and underlying factors of body image and self-esteem further in the near future.
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