Gender Differences in Links between Daily Use of Instagram and Body Dissatisfaction in a Sample of Young Adults in Lithuania

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Abstract

In the last decade, the fast growth of Instagram and its tendency to replace traditional media as a source of glamour images stimulated research into the effects of Instagram on body image of its users. The purpose of the present research was to investigate gender differences in Instagram use and its links to body dissatisfaction in a sample of young adult daily users of Instagram in Lithuania. The sample included 346 participants (100 male and 246 female) aged 18 to 34 years. Along with age and body mass index, measures included self-reported daily Instagram checking frequency, daily duration of Instagram use, Instagram engagement, and appearance-related comparisons which all were used to predict body dissatisfaction. Results revealed that among young adult daily users of Instagram in Lithuania women spent more time on Instagram, were more engaged with Instagram and were more prone to appearance-related comparisons on Instagram than men, but did not differ from men in Instagram checking frequency. For both men and women, higher body dissatisfaction was predicted by more frequent appearance-related comparisons on Instagram and higher body mass index. Higher daily Instagram checking frequency made a small, but statistically significant contribution towards predicting higher body dissatisfaction for women, but not for men.

Keywords: Instagram, body image, appearance-related comparisons, gender differences, young adults

Introduction

The negative effects of exposure to glamour images in the media on body image of both men (Levine & Harrison, 2009) and women (López-Guimerà et al., 2010) are well established. Since its inception in 2010, Instagram has grown to be the Number 4 social network in the world with 1.386 billion active users in 2021 (Statista, 2021) and has been replacing traditional printed media as the main source of glamour images (Twenge et al., 2019). The nature of Instagram facilitates not only sharing of images, but also social comparison (Couture Bue, 2020; Engeln et al.,
2020), particularly appearance-related comparison (Di Gesto et al., 2021) which previous research has shown to be linked to higher anxiety (Couture Bue, 2020; Sherlock & Wagstaff, 2019), depression (Hwang, 2019; Sherlock & Wagstaff, 2019), and dissatisfaction with one’s own body (Rounds & Stutts, 2021; Sherlock & Wagstaff, 2019). High dissatisfaction with one’s own body predicts plastic surgeries (Di Gesto et al., 2021), eating disorders (Tylka, 2004) and even suicide attempts (Rodríguez-Cano et al., 2006). Instagram is owned by Meta Platforms Inc. (formerly known as the Facebook Inc.). Facebook’s own internal research (Facebook, 2019) indicated that social comparison on Instagram made body image issues worse for 1 in 3 teenagers. A recent testimonial by a former Instagram executive suggested, that Instagram executives have known about its negative impact on adolescent girls but have failed to take any significant action (Paul & Milmo, 2021).

Other aspects of Instagram use linked to negative effects on users include frequency of use (Hwang, 2019; Rozgonjuk et al., 2020), time spent (Ahadzadeh et al., 2017; Sherlock & Wagstaff, 2019), engagement with Instagram (Fardouly et al., 2018; Fatt et al., 2019). However, a number of recent studies (e.g., Couture Bue, 2020; Sherlock & Wagstaff, 2019) purporting to measure frequency of Instagram use actually measured the duration of use rather than frequency. Furthermore, we failed to find any studies concerning gender differences in Instagram use among young adults.

Recent studies suggest that both women and men are susceptible to appearance-related comparisons on Instagram and such comparisons are linked to lower body satisfaction in both genders (Barron et al., 2021; Jarman et al., 2021). However, an experimental study conducted by Casale et al. (2021) found that among those Italians, who had not used Instagram previously, exposure to appearance-related Instagram images was linked to lower body satisfaction in women, but not in men.

While Instagram is a global social network, few studies investigating links between Instagram use and body satisfaction have been conducted outside of the USA and Western Europe. Previous studies have found cultural differences in Instagram use in different regions of the world (Sheldon et al., 2017). However, we failed to find any studies investigating links between Instagram use and body dissatisfaction conducted in Eastern Europe with young adult samples, which constitutes the largest age group using Instagram.

In light of the previous research, we had three aims for the present study. The first aim was to compare how young men and women used Instagram in terms of daily checking frequency, daily use duration, engagement, and appearance-related comparisons. The second aim was to identify which of these different characteristics describing Instagram use are the most important for body image of young adults. Finally, we also sought to establish whether the links between Instagram use characteristics and body dissatisfaction are similar in young men and women using Instagram on the daily basis.
Methods

Participants and Procedure

The sample included 346 participants (100 male and 246 female) from Lithuania, who used Instagram at least once a day. Age of the participants ranged from 18 to 34 years \( (M = 24.41, SD = 3.91) \). The age range was chosen in light of the recent statistical data indicating that this age range covered the largest age groups (i.e., 18 to 24 and 25 to 34 years old) of Instagram users in Lithuania (Statista, 2022). Participants were reached online via ads placed on Facebook and Instagram. The data was also collected online using Google Forms survey tool.

Measures

Participants were asked to provide information about their gender and age, as well as about their height and weight. The latter information was later used to calculate Body Mass Index (BMI) which the World Health Organisation (2021) considers a measure for indicating nutritional status and calculates by dividing a person’s weight in kilograms by the square of the person’s height in metres (kg/m²). We used the BMI as an additional variable in our study as it has been linked to body dissatisfaction by previous research (e.g. Porras-Garcia et al., 2020)

Participants were also asked whether they have been using Instagram at least once a day. Those responding negatively to this question were excluded from the sample.

Frequency and Duration of Daily Instagram Use

The Frequency of daily Instagram use was assessed by asking the participants “How many times do you check Instagram per day (even if you are logged on continuously)?” Participants were asked to enter the number of times in a blank space provided for that purpose. If participants responded by entering an interval (e.g., 6–8 times), the average of the interval endpoints was used in the data analysis.

Duration of daily Instagram use was measured using the question “How much time do you spend on Instagram on an ordinary day?” Again, participants were asked to enter the time in a blank space. For the purpose of data analysis, all responses were converted into minutes. In those cases, where responses indicated an interval (e.g., 1–2 hours), the average of the interval endpoints was used in the data analysis.

Instagram Engagement

Engagement with Instagram was measured using the Instagram Engagement Measure developed by Šarskutė et al. (2019). The measure consists of 10 items
describing various forms of engagement with Instagram, such as posting, commenting, following, etc. (e.g. „I post photos on my Instagram profile“) rated for frequency on the 6-point Likert scale from 1 (never) to 6 (very often). The scale demonstrated good internal consistency in the present study, Cronbach $\alpha = .79$.

**Appearance-Related Comparisons on Instagram**

Appearance-related comparisons on Instagram were assessed using three items suggested by Hendrickse et al. (2017): „When using Instagram, I compare my physical appearance to the physical appearance of others“, „When using Instagram, I compare how I am dressed to how other people are dressed“, and „When using Instagram, I sometimes compare my figure to the figures of other people.“ The responses rated for frequency on the 6-point Likert scale from 1 (never) to 6 (very often). Internal consistency of these three items was very high, Cronbach $\alpha = .94$.

**Body Dissatisfaction**

The Body Shape Questionnaire (Cooper et al., 1986) was used to assess body dissatisfaction. The questionnaire consisted of 34 items rated on the 6-point Likert scale from 1 (never) to 6 (always). The questionnaire was designed to measure negative self-appraisal of body shape (e.g. “Have you been afraid that you might become fat (or fatter)?”), thus higher scores on this instrument indicate more body dissatisfaction. Internal consistency of this instrument was very high, Cronbach $\alpha = .98$.

**Results**

Following recommendations of the World Health Organisation (2021), we categorized our participants into 4 categories in terms of their Body Mass Index (BMI): underweight (BMI < 18.5), normal weight (18.5 < BMI < 24.99), overweight (25 < BMI < 29.99), and obese (BMI $\geq$ 30). While most participants in the study (i.e. 65% of women and 61% of men) were of the normal weight, more women (16.3%) than men (1%) were underweight, while more men (38%) than women (18.3%) were either overweight or obese. The BMI of men was higher than that of women ($\chi^2(1, N = 346) = 25.68, p < .01$).

There was no statistically significant age difference between men and women in our sample. Age of the participants was significantly negatively linked to Instagram checking frequency (Pearson’s $r = -.29, p < .01$), daily time spent on Instagram (Pearson’s $r = -.25, p < .01$), activity on Instagram (Pearson’s $r = -.38, p < .01$), and appearance-related comparisons (Pearson’s $r = -.30, p < .01$).

We then analysed gender differences in Instagram use characteristics and body satisfaction (see Table 1). While there was no significant difference in frequency with which men and women checked their Instagram accounts every day, women spent
more time on Instagram, performed more activities on the Instagram, engaged in more appearance-related comparisons, and had lower body satisfaction.

**Table 1**

*Gender Differences in Instagram Use Parameters and Body Satisfaction*

<table>
<thead>
<tr>
<th>Instagram use parameters</th>
<th>Men</th>
<th>Women</th>
<th>Student t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily checking frequency</td>
<td>10.62 (9.21)</td>
<td>11.22 (8.67)</td>
<td>0.58</td>
<td>.56</td>
</tr>
<tr>
<td>Daily time spent (minutes)</td>
<td>49.52 (50.49)</td>
<td>74.79 (63.37)</td>
<td>3.85</td>
<td>.00</td>
</tr>
<tr>
<td>Instagram engagement</td>
<td>32.44 (7.80)</td>
<td>36.87 (8.17)</td>
<td>4.64</td>
<td>.00</td>
</tr>
<tr>
<td>Appearance comparisons</td>
<td>2.20 (1.25)</td>
<td>3.81 (1.58)</td>
<td>10.03</td>
<td>.00</td>
</tr>
<tr>
<td>Body dissatisfaction</td>
<td>63.50 (31.03)</td>
<td>89.94 (44.93)</td>
<td>6.26</td>
<td>.00</td>
</tr>
</tbody>
</table>

Our analysis using Pearson correlation also revealed that for both men and women Instagram activity and appearance-related comparisons on Instagram were linked to higher dissatisfaction (see Table 2). Daily Instagram checking frequency and time spent on Instagram were linked to lower body satisfaction for women, but not for men.

**Table 2**

*Correlation between Daily Instagram Use Parameters and Body Dissatisfaction of Men and Women*

<table>
<thead>
<tr>
<th>Daily Instagram use parameters</th>
<th>Checking frequency</th>
<th>Time spent</th>
<th>Instagram engagement</th>
<th>Appearance comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body dissatisfaction (men)</td>
<td>.19</td>
<td>.15</td>
<td>.31**</td>
<td>.55**</td>
</tr>
<tr>
<td>Body dissatisfaction (women)</td>
<td>.33**</td>
<td>.24**</td>
<td>.35**</td>
<td>.65**</td>
</tr>
</tbody>
</table>

**p < .01.**

**Table 3**

*Multiple Linear Regression Models for Prediction of Body Dissatisfaction of Women and Men*

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Women</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>β</td>
<td>t</td>
<td>p</td>
<td>R&lt;sub&gt;adj&lt;/sub&gt;&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Daily checking frequency</td>
<td>0.91</td>
<td>0.28</td>
<td>.17**</td>
<td>3.19</td>
<td>.002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily time spent (minutes)</td>
<td>-0.01</td>
<td>0.03</td>
<td>-.01</td>
<td>-0.15</td>
<td>.876</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instagram engagement</td>
<td>0.25</td>
<td>0.30</td>
<td>.04</td>
<td>0.82</td>
<td>.412</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance comparisons</td>
<td>16.81</td>
<td>1.42</td>
<td>.59***</td>
<td>11.80</td>
<td>.000</td>
<td>.54</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.40</td>
<td>0.55</td>
<td>.03</td>
<td>0.73</td>
<td>.466</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMI</td>
<td>3.66</td>
<td>0.50</td>
<td>.32**</td>
<td>7.33</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Finally, to assess the differential importance of Instagram use parameters for body dissatisfaction, we used a multiple linear regression. Insofar correlational analysis revealed that body dissatisfaction of men and women was linked to different Instagram use parameters, we did separate regressions for men and women including only those variables significantly correlated with body dissatisfaction in the initial correlational analysis. Both regression analyses also included age and body mass index variables.

Results of the regression analyses presented in the Table 3 indicate that for both men and women regression models were significant and explained considerable variance in body dissatisfaction. While body mass index was significantly linked to body satisfaction of both genders, it was the appearance-related comparisons on Instagram which came out to be the most significant predictor of body satisfaction of both men and women. Daily Instagram checking frequency also significantly predicted body dissatisfaction for women.

### Table 3 - Continued

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Instagram engagement</td>
<td>0.01</td>
</tr>
<tr>
<td>Appearance comparisons</td>
<td>13.19</td>
</tr>
<tr>
<td>Age</td>
<td>0.69</td>
</tr>
<tr>
<td>BMI</td>
<td>2.81</td>
</tr>
</tbody>
</table>

**$p < .01$, ***$p < .001$.**

Discussion

Results of the present study indicate significant gender differences in Instagram use among young adults using Instagram on a daily basis. While both women and men check Instagram with similar frequency, women in our sample reported spending significantly more time on Instagram, more engagement, and more appearance-related comparisons than men did. Research on gender differences in Instagram use is scant, but Greenwood et al. (2016) reported that more women than men had Instagram accounts and this difference was more marked than in the case of Facebook and Twitter.

Our findings also demonstrate that for young adults using Instagram daily, characteristics of Instagram use linked to body dissatisfaction differ for men and women. Initial correlation analysis suggested that for women all four Instagram use characteristics measured in the present study – daily checking frequency, daily time spent, engagement, and appearance-related comparisons – were significantly correlated with body dissatisfaction scores. With the regard to the link between body dissatisfaction and Instagram engagement and appearance-related comparisons, the
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results of our study are similar to those obtained by Di Gesto et al. (2021) in an Italian sample. Sherlock and Wagstaff (2019) had similar findings linking body image disturbance to Instagram use frequency and social comparisons in a sample of Australian women belonging to the same age group as participants in the present study.

In the case of men, only Instagram engagement and appearance-related comparisons were significantly linked to body dissatisfaction, while neither daily Instagram checking frequency nor daily time spent on Instagram had significant correlations with body dissatisfaction. The correlation between appearance-related comparison and body dissatisfaction in the present study was similar to that obtained by Fatt et al. (2019) in an Australian sample.

We found that appearance-related comparisons on Instagram had very similar links to the body satisfaction of both men and women. This contrasts with results obtained in a recent study by Casale et al. (2021), who found that viewing appearance-related content on Instagram resulted in more body dissatisfaction for women, but not for men.

Insofar, correlational analyses revealed that body dissatisfaction of men and women was linked to a different set of predictor variables; we conducted separate regression analyses to establish which predictor variables significantly predicted body dissatisfaction of women and men in our sample. Both regression analyses included only those predictor variables, which had been significantly correlated to body dissatisfaction.

While engagement with Instagram was significantly correlated to body dissatisfaction of both women and men, it came out as insignificant in the regression analyses designed to predict body dissatisfaction of both genders. On the other hand, the results of the regression analyses revealed that appearance-related comparison on Instagram stands out as the single most important predictor of body dissatisfaction for both men and women. This result indicates that the significant link between appearance-related comparisons on Instagram and body image found in numerous previous studies recently conducted in the USA (e.g. Barron et al., 2021), Western Europe (Di Gesto et al., 2021) and Australia (e.g. Sherlock & Wagstaff, 2019) also holds true for the present Lithuanian sample.

Results of the regression analyses also confirmed the significant link between body mass index and body dissatisfaction in both young men and women. Regardless of gender, young adults with higher body mass index tend to also be less satisfied with their bodies than those with lower body mass index. This result corroborates the findings of the previous research in other countries (Porras-Garcia et al., 2020).

Finally, while daily time spent on Instagram was not significant when entered into regression analysis along with appearance-related comparisons on Instagram and body mass index, the daily frequency of Instagram checking retained its statistical (albeit small) significance for prediction of body dissatisfaction among women. A similar result was obtained by Couture Bue (2020) in the USA.
To summarize, the results of the present study indicate that among young adult daily users of Instagram in Lithuania women spend more time on Instagram each day, more engage with Instagram and are more prone to appearance-related comparisons on the social networking site than men, but do not differ from men in Instagram checking frequency. For both men and women, higher body dissatisfaction was predicted by more frequent appearance-related comparisons on Instagram and higher body mass index. Higher daily Instagram checking frequency made a small, but statistically significant, contribution towards predicting higher body dissatisfaction for women, but not for men.

**Scientific Contribution and Practical Implications**

The scientific contribution of the present study is three-fold. First, it contributes Eastern European (i.e. Lithuanian) data to the body of research dominated by data obtained with Western European and Northern American samples. Second, it makes an effort to measure a wide range of Instagram use characteristics instead of one or two. Third, it assesses gender differences in those multiple characteristics of Instagram use and their possible links to body dissatisfaction.

In terms of practical implications, the results of the present study suggest that Instagram use may be linked to some risks to young adults. While it may be a pleasure to look at beautiful pictures of other people on Instagram, young adults would be well-advised to be mindful of a natural tendency to compare themselves to those beautiful pictures, as such appearance-related comparisons may result in growing unpleasant feelings of dissatisfaction with their own bodies.

**Limitations of the Study**

While yielding interesting results, the present study has a number of limitations. First, we have to bear in mind the cross-sectional and correlational nature of the present study, which does not allow proving any causal influences between variables. Second, the present study provides only Lithuanian data, which may or may not be similar to other countries, especially with more significant cultural differences (e.g. Asian or African countries). Third, the non-random nature of the sample used in our study requires us to interpret the results with a potential for participant self-selection bias in mind.

**References**


Spolne razlike u povezanosti između svakodnevнog korištenja Instagrama i nezadozvoljstva tijelom na uzorku mladih odraslih osoba u Litvi

Sažetak

U posljednjemu desetljeću brži rast Instagrama i njegova tendencija da zamijeni tradicionalne medije kao glavni izvor glamuroznih slika potaknuli su istraživanje učinaka Instagrama na percepciju izgleda tijela kod njegovih korisnika. Cilj je ovoga istraživanja bio istražiti spolne razlike u korištenju Instagrama te povezanost s nezadozvoljstvom tijelom na uzorku mladih odraslih osoba iz Litve koje svakodnevno koriste Instagram. U istraživanju je sudjelovalo 346 ispitanika (100 muškaraca i 246 žena) u dobi od 18 do 34 godine. Uz dob i indeks tjelesne mase ispitana je učestalost svakodnevnog provjeravanja Instagrama, dnevno korištenje Instagrama, angažman na Instagramu i učestalost uspoređivanja fizičkoga izgleda sa slikama objavljenima na Instagramu. Sve su te mjere bile prediktori nezadozvoljstva tijelom. Prema dobivenim rezultatima u uzorku mladih odraslih osoba iz Litve koje svakodnevno koriste Instagram žene provode više vremena na Instagramu, više su uključene u Instagram i sklonije su uspoređivati svoj izgled nego muškarci. Nije dobivena razlika između muškaraca i žena u učestalosti provjeravanja Instagrama. I kod muškaraca i kod žena veće nezadozvoljstvo tijelom može se objasniti češćim usporedbama izgleda na Instagramu i višim indeksom tjelesne mase. Češće dnevno provjeravanje Instagrama imalo je nizak, ali statistički značajan doprinos predviđanju većega nezadozvoljstva tijelom kod žena, ali ne i kod muškaraca.

Ključne riječi: Instagram, slika tijela, usporedbе povezane s izgledom, spolne razlike, mlade odrasle osobe

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