

Links Between Instagram Use and Fear of Missing Out Among Young Adults in Lithuania

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Abstract. *The study involved 247 young adults (155 women and 92 men). The age of the subjects ranged from 18 to 34 years (mean age 22.8 years). 137 respondents indicated that they have secondary education, 86 respondents indicated that they have higher education, 16 respondents higher education and 8 basic education.*

The study was conducted in the format of an online survey. Two quantitative research tools were used in the quantitative study – The Multidimensional Facebook Intensity Scale (Orosz, Toth-Kiraly, Bothe, 2016), which was adapted to investigate the intensity of Instagram use (Keyte et al., 2020), and the “Fear of Missing Out scale” (Przybylski et al., 2013). The subjects were asked two additional questions assessing the peculiarities of involvement in the Instagram network and socio-demographic questions.

The results of the study revealed that women are more likely to use the Instagram network, spend more time in the app, and have a higher expression of FOMO than men. The results of this study also showed that a stronger FOMO was associated with a longer time spent on Instagram among men. Among other things, the more pronounced FOMO is associated with more frequent checks of the Instagram app. Finally, the higher intensity of Instagram use by young adults is associated with a stronger expression of FOMO.

Keywords: *Instagram, Fear of Missing Out, Young Adults, Gender Differences*

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Introduction

More than half of the world's population using the Instagram app belong to the age group of 18–34 years: 16.9% of users are men aged 25–34 years, 16.1% are women belonging to the same age group; a slightly lower distribution is observed in the age category of 18–24 years: 15.3% of users are men and 14.5% are women (Statista, 2021). Such intensive use of this app by young adults may primarily be based on the understanding that social media are becoming increasingly important in everyday life; thus, it is one of the main mechanisms of social interaction for young people (Luchman, Bergstrom & Krulikowski, 2014).

Literature provides ample evidence that long-term and intensive use of social networks is associated with negative psychological outcomes, one of the most prominent being an increased level of anxiety (Keyte et al., 2020). It is argued that the peculiarities of the Instagram platform, possibly eliciting feelings of anxiety, include pressure to produce high-quality content, resulting in receiving positive feedback accordingly (Mackson, Brochu & Schneider, 2019). Thus, it is quite evident that in striving to meet these expectations, individuals “commit” to spending as much time as possible acquainting themselves with this network, nurturing their personal profiles, and intensively using it. This allows for the assumption that high involvement in Instagram platform activities possibly leads to an increased level of anxiety.

Furthermore, intensive use of the Instagram network has been identified as a factor provoking anxiety related to dissatisfaction with one's body (Engeln, Loach, Imundo & Zola, 2020). Another term frequently used in the context of research on the intensity of Instagram network use is “social anxiety.” A study conducted by Baltaci (2019), found a positive relationship between social media addiction and a high level of social anxiety. This allows for the assumption that the more intensely a person engages in Instagram network use, the greater the risk for her to experience social anxiety. As Jackson et al. (2019) argue, social anxiety experienced specifically in the context of using the Instagram platform positively correlates with general, situation-independent anxiety. Due to the competitive and idealized image-building environments created by social networks, individuals engage rapidly and intensively in social network use, which eventually triggers various forms of anxiety, including fear of missing out (FOMO). This suggests that long-term and intensive engagement in social network use may potentially harm the user's psychological well-being.

Fear of missing out (FOMO) has been described as a strong desire to constantly participate in activities in which other people are currently involved (Przybylski et al., 2013). In other words, it is the fear of not being able to take advantage of all the opportunities available at that time. The authors indicate that the fear of being left out can manifest in various situations: when there is a gathering of friends that the person cannot attend; when a person feels that their activities or experiences are not as useful and important as those of others, and so on. In order to understand the mechanism of

this fear and its potential consequences for psychological health, it would be valuable to investigate what leads to the manifestation of this phenomenon.

Most researchers explain FOMO based on self-determination theory (SDT; Deci & Ryan, 1985), which emphasizes that effective self-regulation and psychological well-being depend on the satisfaction of three basic psychological needs: competence (the ability to apply one's skills and knowledge), autonomy (the ability to express oneself and realize oneself), and relatedness (the ability to create relationships and participate in social interactions) (Przybylski et al., 2013; Dogan, 2019; J. Kim, Lee & M. L. Kim, 2020). Meanwhile, Wiesner (2017) highlights that the phenomenon of FOMO is experienced due to a strong inherent desire of individuals to belong to a particular social community that they find attractive and close. People experience FOMO precisely in order to fulfill these needs and thus improve their psychological well-being.

Researchers unanimously conclude that this phenomenon is most noticeable in the context of social media use (Lemay, Doleck & Bazalais, 2019). When examining the peculiarities of the Instagram platform that may encourage a stronger experience of FOMO, it is important to note that, in addition to the aforementioned functions of this application, it is significant to distinguish such functions as sharing personal content, announcements of various social events, and especially Instagram stories, which disappear after 24 hours from the time of upload (Alutaybi, McAlaney, Stefanidis, Phalp & Ali, 2018). As Alutaybi et al. (2018) argue, these Instagram network features are essential factors not only prompting frequent checking of the app but also intensifying the experience of FOMO. All of this leads to the assumption that all the functions of the social network discussed above contribute to the experience of FOMO.

In the era of rapidly developing technologies, there are increasingly more researchers who examine the peculiarities of FOMO in the context of intensive use of social networks. Since FOMO is based on a strong desire to participate in activities where other people are present (Przybylski et al., 2013), social media provide users with the opportunity to maintain constant contact with other people, thereby creating the impression that this is the solution to avoiding the experience of the phenomenon under consideration (Roberts & David, 2020). In other words, a stronger expression of FOMO leads to more intense interest in using social networks. These trends are also reflected in the works of authors examining the connections between the peculiarities of Instagram network usage and the expression of FOMO. It is noted that by assessing the opportunities provided by the Instagram app to always know and see what is happening in the world, this social platform becomes attractive to individuals who are inclined to feel a stronger sense of FOMO, as a result of which such users are more at risk of engaging in problematic use of this network (Kircaburun & Griffiths, 2019; Balta, Emirtekin, Kircaburun & Griffiths, 2020). The results of the aforementioned studies can be supported based on the literature review conducted earlier.

As mentioned earlier, the motives of Instagram platform usage by the participants are a desire to create social relationships, self-realization, and experimentation within

the sphere of the opportunities provided by the network (Al-Kandari et al., 2016a). Based on self-determination theory (SDT; Deci & Ryan, 1985), a desire to satisfy the three fundamental human psychological needs may lead to a stronger experience of FOMO (Przybylski et al., 2013; Dogan, 2019; Kim et al., 2020). Thus, the reviewed scientific data suggest that a stronger experience of FOMO is possibly caused by more intensive use of the Instagram app.

On the other hand, it is important to consider how the peculiarities of the Instagram network and the opportunities provided on this platform can affect or enhance the experience of FOMO. Based on the results of previously reviewed studies, functions such as watching videos, live broadcasts, commenting on other people's updates, as well as Instagram stories lead to more frequent checking of the Instagram network (Kircaburun & Griffiths, 2019; Alutaybi et al., 2018). Additionally, the ability to edit and enhance photos presented on one's profile using filters extends the time spent in the app (Sheldon & Bryant, 2016). All of this indicates that both the frequency of checking the Instagram network and the duration of time spent in it may lead to greater intensity of use of this social platform. As authors analyzing these connections argue that greater engagement in Instagram app activities strengthens the expression of FOMO (Salim et al., 2017; Alutaybi et al., 2018).

To understand the importance of investigating the relationship between FOMO and intensive Instagram usage, it is significant to review the impact of this relationship on an individual's psychological well-being. Keyte et al. (2020), researchers exploring the consequences of intense use of the Instagram platform, indicate that high engagement in this network's activities can have detrimental effects on psychological health, such as increased anxiety levels. It is claimed that individuals with problematic Instagram usage may experience frequent mood swings, become easily irritated or aggressive, or start to conflict more with others (Kircaburun & Griffiths, 2019). Meanwhile, researchers analyzing the phenomenon of FOMO argue that this construct is closely related to anxiety psychopathology (Przybylski et al., 2013). Hayran and Anik (2021) suggest that a higher expression of FOMO is associated with difficulties in sleep and concentration. The data from such studies primarily lead to the assumption that both intensive Instagram network usage and strongly expressed FOMO have certain negative consequences for human psychological well-being. Furthermore, it is noted that Instagram users often face experiences of social anxiety, influenced by a decreasing level of self-esteem (Salim et al., 2017). Salim et al. (2017) also state that the decrease in self-esteem is influenced by a stronger expression of FOMO.

Examining the relevance of researching the relationship between intensive Instagram network usage and FOMO, it is important to consider how the relationship linking these phenomena can affect human behavior. Literature highlights significant associations between strongly experienced FOMO and problematic smartphone usage among young adults (Elhai et al., 2020). It is also noted that individuals experiencing stronger FOMO visit social media platforms more regularly, which can increase the need to engage in risky behaviors, especially related to risky alcohol consumption (Riordan

et al., 2015). All of this leads to the conclusion that both FOMO and the intensity of Instagram network usage may have an impact on individual behavioral tendencies.

Furthermore, it is worth mentioning that to understand the relevance of studies analyzing the relationship between these phenomena in today's context, it is significant to examine how FOMO and the intensity of Instagram network usage can affect human psychological well-being and behavioral tendencies. The data from analyzed scientific studies reveal a certain impact of FOMO and the mentioned social platform on risky behavior, problematic smartphone usage, and increasing levels of anxiety experienced in various forms (Riordan et al., 2015; Salim et al., 2017; Kircaburun & Griffiths, 2019; Baltaci, 2019; Keyte et al., 2020; Elhai et al., 2020; Jiang & Ngien, 2020).

Summarizing the potential relationships between the intensity of Instagram network usage and FOMO, it is important to note that due to the previously discussed motives for app usage, this platform is particularly attractive to individuals prone to experiencing stronger FOMO (Kircaburun & Griffiths, 2019; Balta et al., 2020). Salim et al. (2017) found that higher FOMO was linked to longer time spent and more self-presentation on the Instagram. Using focus group and diary methods, Alutaybi et al. (2018) suggested that various functions embedded in this app encourage more frequent checking and prolonged duration of usage due to stimulation of FOMO. However, there have been few studies directly investigating links between quantitative aspects of intensity of Instagram use and expression of FOMO. Thus, the purpose of the present study is to link Instagram use intensity, time spent on Instagram and frequency of Instagram checking to FOMO.

Research hypotheses:

H1: More intense use of Instagram is linked to a more pronounced fear of missing out.

H2: More pronounced fear of missing out is linked to more time spent on Instagram.

H3: More pronounced fear of missing out is linked more frequent Instagram checking.

Methods

Subjects

For this study, a convenience sample consisting of 247 young adults ($n = 247$) was surveyed in Lithuania. The sample included 155 females and 92 males. Although initially 252 individuals started filling out the survey, 5 of them indicated that they do not use the Instagram app and could not continue with the survey. The participants were individuals aged 18 to 34 years. The average age of the respondents was 22.8 years, with a standard deviation of 2.702. The majority of the surveyed young adults (62.8%) were females, while a smaller portion of the participants (37.2%) were males. Most of the respondents who completed the survey had completed secondary education (55.5%) or higher education (34.8%). Meanwhile, the smallest proportion of respondents had tertiary education (6.5%) or primary education (3.2%).

Measures

To assess the intensity of Instagram usage, the Multidimensional Facebook Intensity Scale (Orosz, Toth-Kiraly, Bothe, 2016) adapted and modified by researchers for measuring Instagram usage intensity (Keyte et al., 2020) was selected. The permission to use the scale was obtained from the authors. The scale was translated using the double-translation procedure. Additionally, two additional questions were included: 1) a question to assess the time spent on Instagram (“How much time do you usually spend on the ‘Instagram’ app? Please specify a single number (e.g., 30 minutes), not a range (20–40 minutes).”) and 2) the frequency of checking this social platform (“How many times a day do you usually check the ‘Instagram’ app? Please specify a single number (e.g., 2 times), not a range (5–10 times).”).

The instrument consisted of 13 statements presented to participants to evaluate how well each statement applied to them. Participants were asked to rate them using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The intensity of Instagram usage was measured as follows: the higher the score indicated by the participant, the more intense their Instagram usage. The questionnaire was composed of four different subscales evaluating various aspects: 1) Instagram usage due to persistence; 2) Instagram usage to overcome boredom; 3) Instagram usage as a form of self-expression; and 4) Instagram usage due to excessive engagement.

The Fear of Missing Out Scale (Przybylski et al., 2013) was used to measure FOMO. The scale is freely available on the Internet. The scale was translated using the double-translation procedure. The instrument consisted of 10 statements presented to participants to evaluate how well each statement described their personal experience. Participants were asked to rate them using a 5-point Likert scale ranging from 1 (does not apply to me at all) to 5 (applies to me completely). FOMO expression was measured as follows: the higher the score indicated by the participant, the stronger their experience of FOMO. To assess the reliability of the instruments used in this study, the internal consistency of the FOMO scale, Instagram usage intensity scale, and its subscales were calculated (see Table 1). Results suggest that internal consistency of both FOMO and Instagram intensity scales and their subscales are acceptable.

Procedure

To implement the study, an anonymous online survey in Lithuanian language was created and hosted on the Google Forms in 2022. Invitations to participate were sent to personal contacts as well as posted on various student groups on Facebook and Instagram. Participants age had to fall within ‘young adult’ range, i.e. 18–34 years. Participants were not influenced or offered compensation for their participation in the study. They were informed about the confidentiality, anonymity, and purpose of the study before starting the questionnaire. This information was provided in the form of informed consent at the beginning of the survey.

Results

In order to evaluate the distribution of the analyzed data, a descriptive statistics analysis was conducted. Descriptive statistics data are presented in Table 1 below.

Table 1
Descriptive Statistics of the Study Variables

Variable	Number of items	Minimum	Maximum	Mean	Standard Deviation	Cronbach alpha
Instagram Intensity Scale (IIS)	13	13	60	34.27	10.99	0.91
IIS Persistence	4	4	20	9.63	3.92	0.78
IIS Boredom	3	3	15	10.68	3.40	0.94
IIS Engagement	3	3	15	7.81	3.31	0.78
IIS Self-expression	3	3	15	6.15	2.98	0.87
FOMO	10	10	44	24.86	7.54	0.84
Time on Instagram per day (in minutes)	1	2	480	46	55.60	-
Number of Instagram checks per day	1	1	50	5.70	7.34	-

To examine gender differences in Instagram usage intensity, duration of time spent on the app, frequency of checking, and expression of FOMO, a comparison of means was performed using the Mann–Whitney U criterion (see Table 2).

Table 2
Gender Differences in Instagram Use and FOMO

Variable	Gender		Mann–Whitney U	P
	Female (n=155)	Male (n=92)		
Instagram Intensity Scale (IIS)	35.45	32.29	5963.00	<0.05
IIS Persistence	10.17	8.72	5665.00	<0.01
IIS Boredom	11.01	10.12	5948.00	<0.05
IIS Engagement	7.85	7.74	7122.00	>0.05
IIS Self-expression	6.41	5.72	6048.50	<0.04
FOMO	25.99	22.95	5675.00	<0.01
Time on Instagram per day (in minutes)	69.69	47.14	5247.50	<0.01
Number of Instagram checks per day	8.24	8.23	6705.50	>0.05

In the above Table 2, statistically significant differences between genders are observed in terms of both Instagram usage intensity, duration of time spent on the app, and FOMO expression ($p < 0.05$). It can be noted that women exhibit more intensive Instagram usage, spend longer durations on the app, and experience FOMO more strongly than men. However, no significant differences in the distribution of gender were found regarding the frequency of checking the Instagram app.

To determine the relationship between Instagram usage intensity, checking frequency, time spent and FOMO expression, Spearman's Rho correlation analysis was calculated. Since statistically significant differences in study variables between genders were found, correlations were calculated for men and women separately.

As can be observed in Table 3 provided below, there is a statistically significant relationship between Instagram usage intensity and FOMO expression among both women and men ($p < 0.05$). According to the Spearman's Rho correlation coefficient, as Instagram usage intensity increases, FOMO is more strongly experienced.

The results also revealed significant associations between FOMO expression, the duration of time spent on the Instagram app, and its frequency of checking among men. It can be stated that a stronger expression of FOMO is associated with longer duration spent on this social platform and more frequent checking. However, it is important to note that the correlation between these phenomena is weak.

Meanwhile, analyzing the obtained results among women, it can be observed that there is a statistically significant relationship between FOMO and the frequency of checking the Instagram app. In other words, the more frequent the checking of this social network, the stronger the experience of FOMO. No significant associations were found between the time spent on the Instagram platform and the expression of FOMO among women.

Table 3
Spearman Rho Correlations Between Instagram Use and FOMO in Gender Groups

Variable	Gender	
	Male (n=92)	Female (n=155)
Instagram Intensity Scale (IIS)	0.51**	0.55**
IIS Persistence	0.53**	0.49**
IIS Boredom	0.41**	0.42**
IIS Engagement	0.42**	0.49**
IIS Self-expression	0.29**	0.37**
Time on Instagram per day (in minutes)	0.36**	0.12*
Number of Instagram checks per day	0.38**	0.28**

** $p < 0.01$; * $p > 0.05$

Discussion

In this study, the aim was to determine and evaluate the relationship between young adults' Instagram usage intensity and FOMO. Formulating research hypotheses, it was expected that more intense use of the Instagram platform would be associated with stronger expression of FOMO, and stronger expression of FOMO would have statistically significant relationships with both longer duration of time spent on the Instagram app and more frequent checking. The research objective was achieved by conducting empirical research. The data collected through the survey of respondents were used to perform statistical data analysis. Thus, associations between the phenomena examined in this study were investigated.

Firstly, an attempt was made to compare the Instagram usage characteristics of young adults and FOMO expression based on demographic indicators – respondents' gender and age. When examining the distribution of respondents by gender, it was noticed that women exhibit more intense engagement in Instagram platform activities, spend more time on the app, and express FOMO more strongly than men. These results partly correspond to the tendency highlighted in the study conducted by Huang and Su (2018), which revealed that women are more interested in advertisements presented on the Instagram app than men. It can be assumed that certain information presented on this social platform is more relevant and interesting to women, resulting in their more intense engagement with Instagram than men.

In further analysis, attempts were made to identify associations between the age of young adults, the characteristics of intense Instagram usage, and FOMO. The results showed that there is still a statistically significant relationship between the age of men and intensity of engagement in Instagram activities and the duration of time spent on it. It was observed that older men are less likely to use this app intensively and spend less time on it. However, it is important to note that the relationship found in the present study is very weak. Also, no significant associations were found between women's age and the analyzed phenomena. Considering the limitations of this scientific work, it can be assumed that future studies analyzing such relationships would be significant to be repeated with larger samples.

To test the hypotheses formulated for this study, first of all, associations between Instagram usage intensity and FOMO were examined. It was expected that more intense use of the app would lead to a stronger expression of FOMO. The research results revealed significant associations between these phenomena in both women and men. A moderate strength relationship was observed between intense use of this social platform and the expression of FOMO. Based on the data obtained in the study, it can be stated that a higher Instagram usage intensity leads to a stronger experience of FOMO and vice versa. Significance was observed between FOMO expression and such Instagram usage features as usage due to persistence, excessive engagement, avoidance of boredom, and the need for self-expression. This not only confirms the first hypothesis

formulated for this study but also aligns with the results of previous studies examined in the literature review. As authors who have already investigated such relationships claim, the opportunities provided by the Instagram app to constantly access information about current events in the world increase the intense engagement of users experiencing stronger FOMO in the activities of this social platform (Kircaburun & Griffiths, 2019; Balta, Emirtekin, Kircaburun & Griffiths, 2020).

Finally, in this study, an attempt was made to investigate the relationship between FOMO expression and the duration of time spent on the Instagram app and its checking frequency. It was speculated that stronger FOMO would be associated with more frequent checking of the Instagram social platform and longer time spent on it. Firstly, it is noteworthy that significant associations between the mentioned phenomena were found for men. It can be stated that male participants, who are characterized by a stronger expression of FOMO, spend more time on the Instagram social network and exhibit more frequent checking. Such associations have been corroborated by the results of the study conducted by Al-Kandari et al. (2016b), which revealed that men tend to have public Instagram platform accounts and share their personal information with others more frequently. It can be assumed that more frequent sharing of personal content possibly leads not only to longer time spent on this app but also encourages more frequent checking.

On the other hand, when analyzing the mentioned associations among women, a statistically significant relationship was observed between stronger experienced FOMO and more frequent checking of the Instagram app. It is important to note that such associations were also revealed in the results of the study conducted by Alutaybi et al. (2018). According to the authors, various features presented on the Instagram app not only encourage more frequent checking but also lead to a stronger experience of FOMO (Alutaybi et al., 2018). Although the association found in this study is statistically considered very weak, considering that both strong FOMO expression and exceptionally frequent checking of the Instagram social platform may have negative consequences for human psychological health (Kircaburun & Griffiths, 2019), it can be stated that the exploration of this relationship remains relevant in future studies.

In conclusion, it can be stated that the results of the present study substantiated the trends in the associations between Instagram usage intensity and FOMO found in previous studies. Also, as expected, there are statistically significant relationships between the features of Instagram usage and the expression of FOMO. It is important to mention that significant differences by gender were found when examining the expression of the phenomena under study among young adults. All this allows us to assume that the exploration of relationships between these social phenomena remains not only relevant but also significant for informing people about the potential threats to their psychological health posed by the Instagram app and timely providing information about FOMO.

Conclusions

- a. Higher intensity of Instagram usage is associated with a stronger expression of fear of missing out.
- b. A stronger expression of fear of missing out is associated with a longer duration of time spent on the Instagram, but only among men.
- c. A stronger expression of fear of missing out is associated with more frequent checking of the Instagram.

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