



The relationship between teacher candidates' fear of missing out levels and behavior on social media

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Article Info	Abstract
<p>Keywords:</p> <p>Fear of missing out Social media Mobile technology Teacher candidates</p>	<p>The aim of the study is to examine the relationship between teacher candidates' fear of missing out and their behavior on social networking sites. The study was designed with general and relational screening method, one of the quantitative research methods. The study group consists of 218 teacher candidates studying at the School of Education in Trakya University during the spring term of 2020-2021. Mann-Whitney U and Spearman Rank-Order correlational tests were used in the analysis of the data, alongside descriptive statistics. Findings indicate that the overall FoMO levels of the teacher candidates were below average. No difference was found in terms of FoMO according to gender. Finally, a low-level positive and significant relationship was found between the variable of FoMO and monthly frequency of user actions such as photo sharing and story posting. However, no significant relationship was found between FoMO levels and frequency of live broadcasts or status updates. In the light of the findings, it can be said at least in the specific context of teacher candidates that FoMO is related to particular types of behavior on social networking sites.</p>
Research Article	

1. Introduction

The 21st century has been a stage for marvelous advancements in human civilization and the dominant global economic system of capitalism has proven itself more or less successful, creating abundance of commodities and services. And yet, in addition to bringing about problems in the economic domain, such as income inequality (Brada & Bah, 2014); capitalism has also resulted in additional problems in the cultural domain such as an unsustainable notion of consumerism (Baudrillard, 1998; Stucke & Ezrachi, 2020). The competitive global markets and the drive for profit has fueled in human beings, among other things, what may be defined as a fear of missing out or a fear of *falling behind in terms of consumption* (Stengel, 2013). In this type of society where a Baudrillardian, anxiety-driven experience economy is dominant and consumption is perceived as a duty by citizens; a fear of missing out on consumption has been argued to be the key motivator in all aspects of daily life (Linden & Linden, 2017). Online marketers, who have already paved the way to *surveillance capitalism* and begun finding creative ways of exploiting emotional vulnerabilities (Stjernfelt & Lauritzen, 2020), have also come up with product or service designs the consumption of which rely upon the “fear of boredom and the fear of missing out on something” (Kurtgözü, 2003). And it is indeed no coincidence that today; consumers of digital goods and services, such

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as social networks, are manipulated by such designs (Alutaybi et al., 2018; Alutaybi et al. 2019; Carabantes, 2021) that eventually lead to problematic habits in users.

As far as online social networks are concerned; Przybylski et al. (2013) have published their findings on the phenomenon of Fear of Missing Out (FoMO), which they describe as a feeling of "pervasive apprehension that others might be having rewarding experiences from which one is absent". This specific type of anxiety-related psychopathology, which is expected by some to be defined in the next chapter of the Diagnostic and Statistical Manual of Mental Disorders (Sugarman, 2019), manifests due to unmet social needs, lower life satisfaction, poor mood (Przybylski et al., 2013) and drives people towards excessive and even problematic levels of internet and smartphone use (Elhai, Gallinari, Rozgonjuk & Yang, 2020). This, in turn, leads to various other hazards such as student cyberloafing during lessons, reckless driving, careless pedestrian behavior (Appel, Krisch, Stein & Weber, 2019) or compulsive online shopping (Abdul Aziz, Hasnuden & Adnan, 2021). Franchina and colleagues (2018) have shown that in Flemish adolescents with a higher fear of missing out, social media and smartphone overuse –which leads to consequences such as phubbing– is more prevalent. Fabris, Marengo, Longobardi & Settanni (2020) have also reported in a study with Italian adolescents that FoMO predicts *emotional symptoms* (Goodman, 1997) and is associated with social media addiction, as well as increased sensitivity towards neglect or negative reactions by online peers. It is known that in adolescents; heavy social media use has been linked with increased stress levels, anxiety, depression, lower levels of self-esteem, reduced relationship quality, and lower sleep quality, as well as increased suicidal ideation and suicide events (Roberts & David, 2020). Yet, it is not only adolescents that are threatened by FoMO. In Alt's (2018) study with Israeli college students, FoMO has been the primary factor that mediates the relationship between problematic social media use and maladjustment to school life.

Indeed, Przybylski's research has caused a landslide of research endeavors for investigating the multiple aspects of Fear of Missing Out (within the social media context) and its effects on human lives and there exist a large number of studies that also associate FoMO with problematic smartphone and internet use (Elhai, Yang, & Montag, 2020). However, it has also been demonstrated by Elhai, Gallinari, Rozgonjuk and Yang (2020) that a Fear of Missing Out in the problematic smartphone use context, may not always be due to the desire to solely access social media and stay socially relevant. In their study, FoMO has mediated the relationship between depression severity and what these researchers have referred to as "process" smartphone use (passive use that is caused by a need to relax or be entertained), as opposed to "social" smartphone use (active use caused by a need to stay in touch with others). In the same study; authors highlight the importance of choosing correct measurement strategies and approaching the matter of FoMO more subtly and with greater attention to detail, as evidenced by their process/social smartphone use differentiation attempt. Another example of investigations on FoMO carried out with meticulous attention to detail has revealed that it is not a singular construct and instead can be broken down into five categories based on reasons for its manifestation: Alutaybi and colleagues (2019) summarize the categories of FoMO as a) FoMO When Others Do Not Interact as Expected, b) FoMO When Unable to Interact or Connect as Wished, c) FoMO When Unwilling to Engage in Social Interaction, d) FoMO When Having to or Feeling a Need to Engage in Continuous Untimed Interactions and e) FoMO When an Online Social Gathering is Expected. In another study, Alutaybi and colleagues (2020) also exemplify conditions under which each category of FoMO may manifest while also associating these examples with technical design considerations that may alleviate them. As previously mentioned, it has been suggested that the current design of social media websites contributes to the manifestation of FoMO (Alutaybi, Al-Thani, McAlaney & Ali, 2020) and it should be understood that the cure for FoMO may only come in the way of better interaction design, which falls under the expertise of the human-computer interaction domain. And in order to come up with better designs, interactions of social media users should be scrutinized and usage patterns of those with higher incidence of FoMO should be precisely understood.

1.1. Aim and Significance of the Study

In order to combat the prevalence of FoMO, which may be considered a public health crisis that risks especially young population in the nations of the world, school teachers may play a highly important role, since they are in a unique position to promote throughout compulsory education the health and well-being of children and young people, by facilitating personal, social, health and economic education (Byrne et al., 2015; Dewhirst et al., 2014). And yet, it remains a question as to whether teachers and teacher candidates themselves can stay strong against FoMO or if they are equipped with coping mechanisms. The few studies investigating this matter have shown for a Turkish population that both pre-service (Gezgin, Hamutoglu, Gemikonakli, & Raman, 2017; Tozkoparan & Kuzu, 2019) and in-service (Gullu & Serin, 2020) teachers suffer from a moderate level of FoMO on average. However, these studies are not comparative in nature and need to be replicated in order to establish a certain conclusion. Furthermore, studies investigating FoMO in teacher candidates or other user groups of social media in a Turkish population seem to have overlooked the specific actions and behavior of users during interaction with social media. There exists a need for studies that thoroughly investigate user actions and associate which features of social media design especially fuels FoMO. This here study may be considered significant in that it intends to seek answers to the question as to how Fear of Missing Out in the social media context might be associated with gender or behavior (manifesting in the form of certain user actions) displayed by pre-service teachers (teacher candidates) using social networking applications. In so doing, it aims to extend the body of literature that investigates FoMO within the specific scope of teacher candidates and also come up with recommendations for future studied focusing on better social media design that may help reduce FoMO in users.

1.2. Research Questions

In this context, the following research questions have been formulated:

1. What is the overall level of FoMO in teacher candidates?
2. Is there a difference between FoMO levels of teacher candidates based on gender?
3. As far as teacher candidates are concerned, is there a relationship between FoMO levels and social media interaction frequency measured on a monthly basis in terms of
 - a. average number of photographs shared,
 - b. average number of stories posted,
 - c. average number of live broadcasts, and;
 - d. average number of status updates?

2. Methodology

2.1. Research Model/Design

The study employs general and relational screening models, which are commonly encountered within qualitative research methods. Whereas general screening model may be defined to include efforts that seek to illustrate a case or a phenomenon the way it exists and within its own boundaries only (Karasar, 2002); relational screening model includes efforts that seek to “determine the existence and/or level of change between two or more variables” (Karasar, 2006).

2.2. Data Collecting Tools

The data collection tools used in this study have been: a) a personal information form employed for the collection of demographic data; b) a social networking site actions survey employed for the purpose of determining monthly frequency of photo-sharing, live broadcasts, stories and status updates; and c) the Fear

of Missing Out Scale (FoMOS) developed by Przybylski et al. (2013) and adapted to Turkish language by Gökler et al. (2016). The FoMOS consists of 10 5-point Likert type items and a single dimension, reflecting a Cronbach's Alpha internal consistency coefficient of .84. The personal information form required participants to share information on their gender, age, study department and class level.

2.3. Sampling or Study Group

The study group for the research consists of 222 pre-service teachers, who were undergraduate students in various departments of the Trakya University School of Education during the 2020-2021 spring semester. 176 participants (79.28%) identified as female and 46 (20.72%) identified as male and the average age of the study group was found to be $M=20,6$. Table 1 showcases further information on participant demographics.

Table 1.

Participants' frequency-percentage values regarding gender and grade.

Gender	Frequency	Percentage
Female	172	78.9%
Male	46	21.1%
Grade	Frequency	Percentage
1 st Year	-	-
2 nd Year	175	80.2%
3 rd Year	21	9.6%
4 th Year	22	10.1%
Total	218	100%

2.4. Data Analysis

Kolmogorov-Smirnov statistical tests have been carried out for the purpose of testing normal distribution of data, where necessary. It was understood at certain points that the assumption of normal distribution of data has been violated ($p<.05$) and non-parametric statistical tests, namely Mann-Whitey U and Spearman Rank-Order correlation tests were employed in data analysis. Presence of outliers in datasets have been analyzed and although outliers were found to exist; after examination these non-extreme values were considered a natural part of the population, hence their cases were kept within the study group. Results have been shared alongside descriptive statistics for answering each research question. Data have been collected from participants online via Google Forms, in a period of 2 months during April-May 2021. Data have been collected on a voluntary basis and necessary permits have been granted by the university ethical board.

2.5. Findings and Discussions

RQ1: Overall Level of FoMO in Teacher Candidates

In order to determine the overall FoMO level of teacher candidates in the study group, descriptive statistics have been referred to. Findings indicate that the overall FoMO level was below the average attainable score in the scale ($M=2,05$). Table 2 shows descriptive statistics obtained using the FoMOS.

Table 2.

Descriptive Statistics on Overall FoMO Levels of Participating Teacher Candidates

Group	N	Min.	Max.	\bar{x}	SD
Female	172	1.00	4.10	1.95	.790
Male	46	1.00	3.70	2.19	.854
Total	218	1.00	4.10	2.01	.808

RQ2: Difference Between FoMO Levels of Teacher Candidates Based on Gender

Due to the fact that the assumption for normal distribution of data has been violated, Mann Whitney U test has been carried out in order to understand whether gender was associated with FoMO level in teacher candidates. Test results indicated that there was no statistically significant difference between FoMO levels of female teacher candidates (Mdn = 1.70) and male teacher candidates (Mdn = 2.20), $U=3354.500$, $p>.05$. Table 3 shows details of the findings.

Table 3.

Differences in FoMO Based on Gender – Mann Whitney U Test Results.

	Male		Female		U	z	p
	Mean Rank	n	Mean Rank	n			
FoMO	122.58	46	106.00	172	3354.500	-1.585	.11

RQ3: FoMO and Social Media Interaction Frequency

Research question 3 sought to determine whether there was a relationship between FoMO levels of teacher candidates and the frequency of certain user actions they took on social networking applications. Normal distribution of data was not observed in at least one of the variables and it was decided to employ the non-parametric statistical method of Spearman's Rank-Order correlation test for the purpose of answering the research question. As a result of the test, it was discovered that there were statistically significant positive yet weak relationships between FoMO between and photo sharing frequency ($r_s = .186$, $p < .01$) and FoMO and story posting frequency ($r_s = .163$, $p < .05$). On the other hand, FoMO has not been statistically significantly related to frequency of live broadcasts or status updates ($p>.05$). Detailed results have been shared in Table 4.

Table 4.

Relationship Between FoMO and Monthly Frequencies of Certain User Actions on Social Networking Sites – Spearman's Rank-Order Test Results

	FoMO	Photo Sharing	Story Posts	Live Broadcasts	Status Updates
FoMO	1	.186**	.163*	.067	.057
Photo Sharing		1	.462**	.208**	.128
Story Posts			1	.156*	.073
Live Broadcasts				1	.189**
Status Updates					1

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

3. Conclusion and Suggestions

This study investigated the Fear of Missing Out phenomenon within the context of teacher candidates. Overall FoMO levels, as well as relationship between FoMO and certain variables such as gender or behavior displayed on social networking applications in the form of frequency in displaying certain user actions, have been considered. The first finding has shown that overall FoMO level of teacher candidates in the study group was slightly *below average* attainable score in the FoMOS and this can be interpreted as teacher candidates having relatively lower average FoMO. This finding somewhat contradicts with previous research conducted on the matter have shown *moderate* level of FoMO in preservice teachers studying in a university (Gezgin, Hamutoglu, Gemikonakli & Raman, 2017; Tozkoparan & Kuzu, 2019). Additionally, in other studies investigating overall FoMO levels in university students (who were not explicitly reported to be teacher candidates) moderate levels of overall FoMO have also been reported (Hoşgör et al., 2017; Uyar, Birvural & Karakuyu, 2018). In the formulation of this first research question about overall FoMO levels, this study has followed the tradition of previous studies that it now seems to somehow contradict with. However, it should be understood that all claims regarding overall FoMO levels based on total scores

of participants in FoMO studies (Gezgin et al., 2017; Hoşgör et al., 2017; Tozkoparan & Kuzu, 2019; Uyar, Birvural & Karakuyu, 2018) are rather arbitrary interpretations in nature. Statistical techniques are usually not resorted to in such analyses and nowhere in the original work by Przybylski et al. (2013) is there an advised range with which to interpret the meaning of total scores in using the FoMOS, except for a range of mean item rankings, which the overall FoMO average scores of all aforementioned studies seems to fall within. It is important to be able to reach a concluding remark as to whether teacher candidates, who are important in promoting countermeasures against public health hazards such as FoMO through education, are safe from FoMO or not. But this study, as well as in studies that preceded it, fails to reach such conclusions due to unfit methods for answering such research questions. It is therefore recommended to either omit such questions in future study efforts, or come up with methods that are more comparative in nature and therefore more likely to employ statistical testing rather than arbitrary interpretation. Only then could it be possible to establish whether teacher candidates, adolescents, college students or millennials are really more susceptible to FoMO than the rest of the society. For instance, a study that approaches the phenomenon from this perspective has been conducted by Barry and Wong (2020) and has shown that there was no statistical difference between different age cohorts ranging from adolescents to 45-year olds in terms of overall FoMO.

That said, the fact still stands that the average total FoMO scores of participants in this study is lower than those encountered in the studies mentioned above. Future research on FoMO of teacher candidates and/or university students should take note of this fact and try to establish whether results of this study comprise simply an isolated case or a step in a chronological descent in overall FoMO scores achieved in such studies. It is, after all, entirely possible that the Fear of Missing Out in humans may be growing weaker in time as they adapt to social media design elements that trigger it in the first place.

There was no difference in FoMO levels of study participants based on their gender. Other studies conducted on college students have also reported similar findings (Hoşgör et al., 2017; Uyar, Birvural & Karakuyu, 2018). Whereas a more extensive study that sought to adapt a FoMO scale to Turkish language also reported for a Turkish audience that FoMO levels were not different across genders (Gökler, Aydın, Ünal & Metintaş, 2016) another recent study conducted with a rather large sample has also shown a similar result for a German population (Rozgonjuk, Sindermann, Elhai & Montag, 2021). Although such is the case; a literature review also reveals studies where overall FoMO levels were shown to be greater either in male participants (Arslan, Tozkoparan & Kurt, 2019; Gezgin, Hamutoglu, Gemikonakli & Raman, 2017; Gullu & Serin, 2020; Przybylski et al., 2013;) or female participants (Balta, Emirtekin, Kircaburun & Griffiths, 2019; Beyens, Frison & Eggermont, 2016; Elhai et al., 2018; Stead & Bibby, 2017). Although it has been claimed that men and women have different expectations from social networking and they also use them differently (Belhadjali, Abbasi & Whaley, 2016), it can be said that the relationship between FoMO and gender alone is still rather uncertain and factors such as different cultural backgrounds or participant identities may be influencing it. And yet, Palaz (2018) explains that in a rapidly globalizing world, the effects of the postmodern culture upon younger generations – namely, Generation Z – leads to a standardization of the individual and blurring in the distinction between gender identities. This trend may be used to explain the non-difference between genders in terms of FoMO. It should be remembered that FoMO is a concept related to consumer culture and it has been shown that the consumer choices of Generation Z members are increasingly influenced by “gender-neutral” marketing, which they seem to prefer (Nykänen, 2019). It should therefore not be surprising if a trend in future research, where no difference in FoMO across genders is observed, emerges.

A glance at the literature shows that; individuals with high FoMO are preoccupied with desire to follow what other people are up to in their lives (Gürdin, 2019). That said, it has been shown that, at least for the specific case of Instagram social networking application, not only users that have befriended a greater number of users, but also the users have been found to post more frequently have been found to have greater FoMO (Moore ve Craciun, 2021). In this here study, similar results have been achieved with teacher

candidates; whose frequency of sharing photographs or posting stories have been correlated with FoMO albeit at a weak level. In their study where they have tried to develop a method for reducing FoMO, Alutaybi, Al-Thani, McAlaney, and Ali (2020) report that Fear of Missing Out is not just related to missing out an opportunity to passively consume content but that there also exists a kind of FoMO that is explained as the “Fear of missing the ability to be popular”, which explains the findings in this here study. The research of Alutaybi and colleagues (2020) also recommend certain technical and socio-technical countermeasures for combating this kind of FoMO and preoccupations that are manifested by it. It is also noteworthy that previous work by Alutaybi et al. (2018) has tried to come up with social network application design considerations (such as; filters, priority lists, event recording, status and time setting, alternative notifications) but none of the recommended techniques seem to address FoMO behavior that is related to that could potentially alleviate FoMO, but none of these seem to specifically target behavior caused by a desire for self-promotion (due to fear of missing the ability to be popular).

Individuals’ Fear of Missing Out is fueled not only by a desire to stay up-to-date but also a desire to stay relevant; and teacher candidates seem to be no exception. For the sake of leaving an impression on others, this particular group of people are also prone to heavily use social media; which in turn may lead to cases of problematic use and even addiction (Kuss & Griffiths, 2011). FoMO is associated with hedonistic consumption (Gürdin, 2019) and thus can be said to fuel egoism to a certain extent. This situation is more threatening in the context of teacher candidates, since a depart from collectivism especially in these individuals may alter the fabric of society much deeper than any other group could. Future research could focus on developing, implementing and evaluating FoMO rehabilitation projects that can be included in teacher training programs and report results.

3.1. Limitations

The primary limitation of the study has been the difficulty in collection of data during the COVID-19 pandemic period, resulting in a relatively small sample size. Also, convenience sampling has led to genders and grave levels not being homogenously represented in the sample.

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