



Relationship between fear of missing-out and adolescents mental health

Związek pomiędzy lękiem przed pominięciem a zdrowiem psychicznym młodzieży

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■ Abstract

Introduction and Objective. The fear of missing-out (FoMO) is a psychological phenomena among social media users related to anxiety that they can miss something important. With an increasing number of users of social network sites and Internet access, adolescents are especially exposed to the negative effects of modern technology. Thus, a proper understanding of new dangers is needed to provide better care for adolescents. The aim of this review was to gather knowledge in the area of fear of missing-out to provide an understanding of this phenomena. The search for relevant papers was performed among the following databases: PubMed, Web of Science, Scopus and EBSCO.

Brief description of the state of knowledge. The FoMO phenomenon is related to habits, mental health issues as well as society-related problems. Results indicate that FoMO is connected to feelings of loneliness, depression, anxiety, and the need to belong. Some studies indicate that there is a connection between FoMO severity and relationships with parents. Similarly, there is evidence of a connection between FoMO and problematic technology use.

Summary. Seeking support from friends, family, or a mental health professional can offer perspective and coping strategies for managing FoMO-related distress. By adopting a pro-active approach and implementing these strategies, individuals can gradually diminish the impact of FoMO on their overall well-being. Raising public awareness is necessary to alleviate the deficits of psychological needs of adolescents

■ Key words

adolescents, FoMO, mental health

■ Streszczenie

Wprowadzenie i cel pracy. Lęk przed pominięciem (ang. *fear of missing out* – FoMO) to syndrom użytkowników mediów społecznościowych objawiający się strachem, że coś ważnego może ich ominąć. Wraz ze zwiększoną liczbą użytkowników mediów społecznościowych oraz łatwiejszym dostępem do Internetu młodzież jest szczególnie narażona na negatywne efekty rozwoju technologii. W celu zapewnienia młodym osobom lepszej opieki konieczne jest zatem zrozumienie występujących w tej grupie nowych zagrożeń. Celem tej pracy jest podsumowanie aktualnej wiedzy na temat FoMO wśród młodzieży. Analizie zostały poddane artykuły znajdujące się w bazach danych takich jak PubMed, Web of Science, Scopus oraz EBSCO, opublikowane przed 4 grudnia 2023 roku.

Opis stanu wiedzy. Autorzy dostępnych prac naukowych wykazali, że syndrom FoMO może być związany z nawykami, problemami społecznymi oraz psychicznymi chorego. Badania wskazują na jego powiązanie z poczuciem samotności, depresją, stanami lękowymi oraz potrzebą przynależności. Wykazano także korelację pomiędzy ciężkością FoMO a relacją chorego z rodzicami. Kolejnym czynnikiem zwiększającym ryzyko wystąpienia FoMO jest uzależnienie od Internetu oraz mediów społecznościowych.

Podsumowanie. Wsparcie ze strony przyjaciół, rodziny oraz specjalistów zdrowia psychicznego pomaga zredukować stres powiązany z FoMO. Poprzez wprowadzenie odpowiednich interwencji terapeutycznych oraz aktywne podejście do młodzieży możemy znacznie ograniczyć wpływ FoMO na ogólne samopoczucie młodych ludzi. Konieczne jest poszerzenie świadomości społecznej w celu zniesienia deficytów zaspokajania potrzeb psychicznych w tej grupie.

■ Słowa kluczowe

młodzież, FoMO, zdrowie psychiczne

INTRODUCTION

There are approximately 4.2 billion active social media users worldwide [1]. As a part of daily media usage, it is important to understand how social network sites (SNS) affect a person's well-being. It is possible that through SNS perceived social

support can increase resulting in higher life satisfaction [2]. However, with increased easy access to information about activities, events and conversations, a phenomenon called Fear of Missing Out (FoMO) appeared. It is defined as 'pervasive apprehension that others might be having rewarding experiences from which one is absent' [3], resulting in the desire to be connected with what others are doing.

Understanding this phenomenon is especially important in the context of adolescents as they integrate with the Internet at

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an early age in their daily lives [4]. FoMO is an effect of deficits in satisfaction of psychological needs, such as relationship with others [5], and this can increase in adolescents as they face challenges to form their identity. The individuals who evidenceless satisfaction of basic psychological needs reported higher levels of FoMO and increased engagement in social media [3]. There is a mediating role of FoMO between deficits in psychological need and excessive use of social media. Alt described the role of FoMO in disruptive behaviours in the classroom enabled by using SNS technology [6].

FoMO can be analyzed by the questionnaire of Przybylski et al., an instrument that examines the fears, concerns and anxiety in relation to being in or out of touch with events across their social circles [3].

The purpose of this review is to understand the impact that FoMO has on adolescents and summarise the findings obtained so far.

MATERIALS AND METHOD

The search strategy was to review papers from the earliest published until 4 December 2023 to identify all relevant studies among the following databases: PubMed, Web of Science, Scopus and EBSCO. For the search purpose following key words were defined: ‘Fear of Missing Out’, ‘FoMO’, ‘adolescents’, ‘teenagers’, ‘youth’, ‘psychological impact’, and ‘well being’ (Boolean operator).

The inclusion criteria were all original quantitative papers published in peer-reviewed journals that used standardized tools for FoMO, assessed predictors or other disorders connected with them. 19 years of age was selected as the upper

age limit of the participants in the study. Studies that did not fulfill the inclusion criteria, as well as reviews, book chapters, and letters to editors were excluded. Only articles written in the English language were included in the review analyses.

The articles from each database were retrieved, and duplicated records identified and removed. Two authors independently analysed titles and abstracts of the remaining works. All retrieved full papers were independently assessed for relevance. Data extraction was completed by one author and relevant information was summarized for this rview. Finally, the fourteen works were accepted for inclusion in the review. The process of the search was presented in a PRISMA diagram flow [7] (Fig.1).

RESULTS

14 articles were qualified for the review. The demographic data is summarized in Table 1.

DISCUSSION

Age. One study suggested that adolescents aged 13–17 had higher FoMO than young adults aged 18–25; however, the sample was small, thus confirmation on bigger groups should be required.[8] On the contrary, Santana-Vega et al. in a group of 569 students aged from 12 – 19, did not find differences between the mean of FoMO scores and age. [4] Similarly, in study in the USA examining possible links between COVID-19 knowledge and FoMO age was not correlated with the FoMO scores [9].

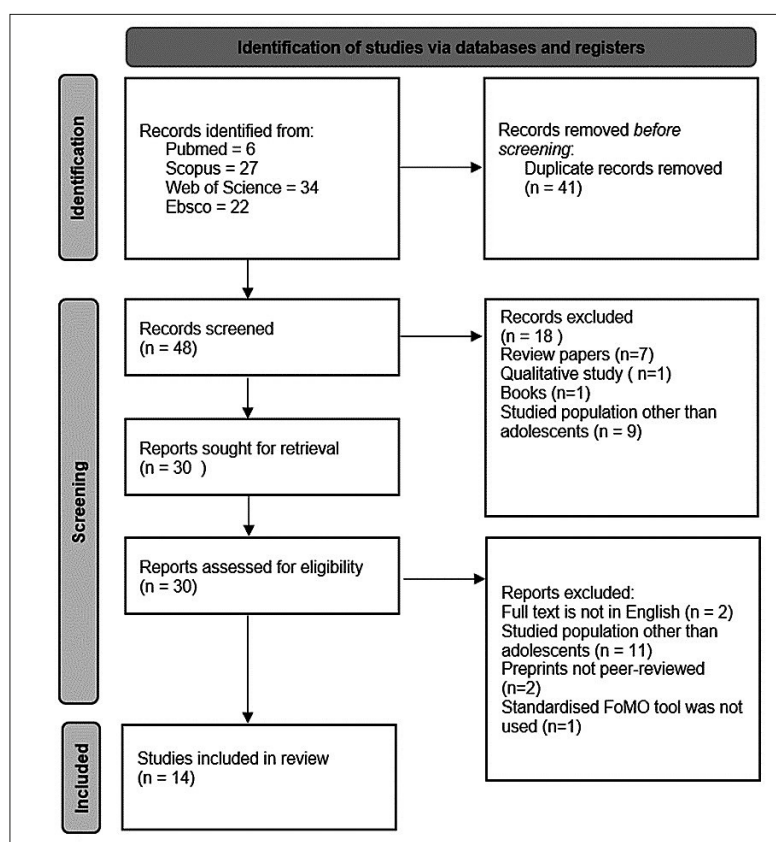


Figure 1. The search process of studies presented in the PRISMA diagram flow

Table 1. Demography of studies included in the review.

Authors	Sample size	Age range (mean if mentioned)	Country, year of publication
Santana-Vega I. et al. [4]	569	12-19 (14.6, SD = 1.87)	Spain, 2019
Ranchay B. et al. [8]	50	13-17	India, 2023
Mousavi SZ. et al. [9]	215	14-17 (15.63, SD = 1.13)	USA, 2023
Zawadzka D. et al. [10]	539	(14.75, SD = 0.99)	Poland, 2019
Marengo D. et al. [11]	398	11-15 (12.54, SD=0.96)	Italy, 2021
Beyens I. et al. [12]	402	(16.41, SD = 1.43)	The Netherlands, 2021
Fabris MA. et al. [13]	472	11-19 (13.50, SD = 1.87)	Italy, 2020
Allen BJ. et al. [14]	4,575	Cisgender youth: (14.62, SD = 1,68); Transgender youth: (14.57 SD = 1.66)	USA, 2021
Jin Y. et al. [15]	517	12-15 (13.81, SD =1.4)	China, 2023
Schmuck D. [16]	384	10-14 (12.37, SD=1.48)	Germany, 2021
Alt D. et al. [17]	216	13-18	Israel, 2018
Yau JC. et al. [18]	130	10-16 (12.41, SD = 1.23)	USA, 2021
Chai HY. et al. [19]	1,319	11-19	China, 2019
Yang CC et al. [20]	517	12-18 (14.83, SD = 1.93)	USA, 2023

Gender. Although in two studies, there were no significant differences observed between the mean FoMO-E scores according to gender [4, 10], being a male was negatively correlated with FoMO [11]; similar results have been obtained by other researchers [9, 12, 13]. Only one of the reviewed studies decided to analyze the FoMO problem in transgender adolescents, showing that they obtained higher scores in the Comprehensive Inventory of Thriving subscale to assess loneliness and also the FoMO scores compared to cisgender females, cisgender males and combined group. There was no difference between transgender and cisgender youth as both groups showed a positive correlation of problematic internet use with loneliness and FoMO [14]. Those findings seem to be supported by a Chinese study in which loneliness correlated positively with FoMO [15]. The feeling of loneliness may force the adolescent to increase SNS use to satisfy the need for acceptance. In addition to the mentioned findings, Zawadzka et al. showed that regardless of gender there was a statistically significant association between the level of Purpose in Life Test (PiL) score and FoMO. Those with higher PiL had lower FoMO scores [10].

Sociological factors. Parent-child communication relationship to phone use patterns was also observed. Those with less time of phone use had a significantly higher score on the Parent and Peer Attachment Inventory (PPAI) [4]. Better parental-adolescent communication can be also the support for reducing FoMO. A German study in which participants were asked to answer a survey at two points in time, showed a positive correlation between FoMO and following social media influencers at the time of both measurements [16]. Additionally, there was a moderate positive correlation between FoMO at first and at the second point of time. Schmuck showed that following vloggers would increase FoMO over time, and would reduce adolescents social well-being [16]. Regarding parental influence, there was a negative correlation between scores obtained in items referring to supportive parent-adolescent communication and FoMO. Additionally, in adolescents who had supportive communication with their parents, the FoMO levels at the second measurement decreased [16]. The influence of vloggers at the second point in time was not only weaker in adolescents

with higher levels of supportive communication, but also in those with a higher perception of supportive communication following influencers at first time measurement was not related to FoMO results at the second time [16].

Internet and SNS use. An increased FoMO was a positive predictor of Adolescent Digital Technology Interactions and Importance (ADTI) for youth of all genders [14]. This means that those who had higher FoMO perceive the SNS and Internet use as more important. Such findings seem reasonable as a Spanish study showed that scores obtained in FoMO are positively correlated with the Mobile Related Experiences Questionnaire (MREQ), suggesting that students who have more problematic use of phones tend to have higher degree of FoMO [4]. Analyzing the average time of phone use, Santana-Vega et al. found that students who use their mobile phones for more than four hours a day have significantly higher scores in FoMO than the rest [4]. The longer phone usage is caused by the fact that they are more afraid of not being connected. The higher score was obtained in students who communicate more with friends which means that those students are more afraid of not feeling connected to them [4]. An Italian study found a positive correlation between FoMO and exclusion from WhatsApp classmate groups. What is more, in regression analysis the exclusion was also positively linked with FoMO. Additionally, the exclusion had an indirect effect on emotional symptoms assessed by the Strengths and Difficulties Questionnaire (SDQ). Similarly, there was a positive correlation between SDQ and FoMO scores obtained by the participants [11]. The correlation between SDQ and FoMO was also confirmed by Fabris et al. [13]. Additionally in regression analysis FoMO was found as a direct positive predictor of emotional symptoms [13]. Those findings were supported by a study in The Netherlands in which not only Facebook use but also perceived stress related to not being popular on Facebook and not belonging on Facebook, had a positive correlation with FoMO [12].

In the equation model, the social needs of adolescents were significantly associated with FoMO. In this model, the positive correlation between the need to belong and the need for popularity and FoMO explained 69% of variances in FoMO [12]. In addition, FoMO was significantly associated with

Facebook use as those who experienced more FoMO reported higher Facebook use. The overall need to belong, the need for popularity and Facebook use were significantly mediated by FoMO [12]. Similarly, Fabris et al. reported that there is a positive correlation between stress associated with neglect (SS-N) and stress associated with negative reactions (SS-NeR) by online peers [13]. In the regression analysis, FoMO was a direct positive predictor of SS-N, SS-NeR and social media; additionally, it had an indirect impact on emotional symptoms by mediation of stress and social media addiction [13].

The problematic internet use (PIU) is also one of the compounds of the FoMO phenomenon. Regression analysis by Alt et al. showed that FoMO had a direct effect on problematic internet use [17]. This is consistent with Jin et al. who found that problematic smartphone use (PSU) is positively correlated with FoMO [15]. Similarly, a study in the USA showed that with the increased frequency of texting FoMO score of participants was also higher [18]. It seems more than plausible that SNS use had a positive correlation with FoMO, as suggested by the results obtained by Chai et al. [19], and are consistent with Yang et al. in which FoMO was positively correlated with connection overload [20]. The association between SNS and social overload was also moderated by the FoMO levels in adolescents [19].

Relationship with learning. Surprisingly, only one of the reviewed studies attempted to find an association between FoMO and students' perception of learning. To assess students' approach to school, the Student Process Questionnaire (R-SPQ-2F) was used. Students were divided into two groups – surface learning and deep learning. Although surface learning had a direct effect on FoMO reported by students, the FoMO did not mediate between surface learning and problematic internet use [17].

FoMO aspect in mental health. Searching for evidence of a connection between FoMO and mental health problems, FoMO was found to be positively correlated with availability stress and depressive symptoms. [20] A Chinese study found additionally a positive correlation with anxiety symptoms [15]. The FoMO was also negatively correlated with the mindfulness score obtained on Mindful Attention Awareness Scale (MAAS). Further investigations with mediation tests showed that FoMO, depression and anxiety had a significant chain mediating effect between mindfulness and PSU [15]. The Yang et al. analysis of overall Digital Social Multitasking (DSMT) and its components, such as shared phone use during face-to-face interactions and the seriousness of those interactions, revealed that FoMO had a positive correlation not only with the level of DSMT, but also with DSMT elements [20]. Analyzing the friendship quality with five items of the Relationship Assessment Scale in which the higher score reflects better friendship quality, a weak positive correlation with FoMO was found. DSMT mediates this relationship as it has an indirect effect on friendship quality. Furthermore, as DSMT had a direct effect on FoMO it also had an indirect effect (by FoMO) on depressive symptoms [20]. Overall, it is reasonable to state that FoMO has an impact on adolescents' well-being, as Chai et al. proved that it is not only negatively correlated with subjective well-being but also moderates the association with SNS use [19]. Such claims were partially supported by a Polish study in which similar correlation was found; however, in the final model of linear regression

analysis only the PiL score was a significant predictor of FoMO [10].

Limitations of the study. Of the 14 reviewed works, 10 were conducted in Europe or the USA. With the scarcity of works from other continents the cultural differences that may influence adolescents cannot be presented. Although most of the studies had a sufficient number of participants, only two were based on large groups of adolescents, with over 1,000 participants. Since the age of participants differed in particular studies there may be some discrepancies in the obtained results.

CONCLUSIONS

Fear of missing-out in adolescents seems to be correlated with their identity, loneliness, parental communication, technology use patterns, and perception of themselves online. However, most of the studies were cross-sectional and only one analyzed the changes of FoMO in time. More similar longitudinal studies are needed to provide a better understanding of the psychological mechanisms underlying FoMO. Studies of the correlation between depression and anxiety symptoms with FoMO may be a useful tool to provide better care for adolescent patients.

The problem of loneliness and perceived stress related to not being popular is a major problem among adolescents, as belonging to a group is one of the basic psychological needs. Providing support for students' psychological well-being may improve adolescents' mental health. A greater awareness of the relationship between belonging and academic success may improve the adolescents' condition [21]. Surprisingly, only one study found a relationship between FoMO and learning, although the negative effect of deep learning on FoMO and problematic internet use was not confirmed, and a bigger sample may provide different results [17].

Programmes supporting the work of families, educators, psychologists and mental health providers are needed to alleviate deficits of psychological needs of adolescents.

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