



FEAR OF MISSING OUT AMONG HIGH SCHOOL STUDENTS IN BANDUNG

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ABSTRACT

Fear of Missing Out (FoMO) has become an increasingly common phenomenon among adolescents, especially with the increasing use of social media. FoMO can have a negative impact on students' mental well-being, which can result in anxiety, stress, and life dissatisfaction. This study is important to understand the level of FoMO among high school students, as well as the factors that influence it. With the increasing exposure of adolescents to social media, understanding FoMO becomes very relevant to developing effective interventions. This study aims to provide an overview of the level of FoMO among high school students in Bandung. Thus, the results of the study are expected to be the basis for efforts to improve mental health in educational environments. This study aims to describe the level of FoMO in high school students in Bandung and identify the factors that influence it. The design of this study was descriptive with a total sampling technique, involving 100 high schools students in Bandung. Data were collected through a questionnaire using the Online Fear of Missing Out (ON-FoMO) Scale, which consists of 20 questions adapted into Indonesian. Data analysis was carried out using frequency distribution to describe the characteristics of respondents and the level of FoMO. The results showed that the majority of respondents had moderate levels of FoMO, with 30% of respondents experiencing high FoMO. Factors that influence the level of Fear of Missing Out (FoMO) include age, gender, and class, where female students and adolescents tend to experience higher FoMO due to social pressure and intense social media interactions. The impacts of high FoMO can include increased anxiety, stress, and life dissatisfaction, which can affect students' overall psychological well-being. This study provides insight into the level of FoMO among high school students in Bandung, emphasizing the need for interventions to manage the negative impact of social media on students' mental well-being.

Keywords: fear of missing out; high school; students

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INTRODUCTION

The development of technology, especially social media, has had a major impact on the lives of teenagers, including high school students. Platforms such as Instagram, TikTok, and WhatsApp have become an integral part of their daily lives, allowing teenagers to stay connected, socialize, and build social identities online (Wolniewicz et al., 2018). Social media makes it easy for students to follow their friends' activities and expand their social networks, but it also causes psychological stress due to social expectations and dependence on validation from online interactions (Brailovskaia et al., 2021). One of the emerging phenomena is the Fear of Missing Out (FoMO), where students feel afraid of missing out on information or experiences shared by their friends in cyberspace, which can trigger anxiety and emotional stress (Yosep, Suryani, et al., 2023). As a result, social media, which initially functioned as a means of communication, now has a bigger role in shaping the social life and psychological well-being of teenagers (Coco et al., 2020).

FoMo is a feeling of anxiety or fear that someone experiences when they feel left out or miss out on opportunities to participate in social activities or experiences that are considered

enjoyable by others (Hikmat et al., 2024). FoMO is persistent fear that others may be having more enjoyable or meaningful experiences than they are experiencing, which ultimately triggers a desire to stay connected and follow other people's activities (Milyavskaya et al., 2018). In the context of adolescents, FoMO is often associated with intensive social media use, where individuals constantly monitor the activities and updates of their friends. Adolescents who experience FoMO tend to feel pressured to stay active on social media so as not to be left behind, increasing the risk of anxiety and negative impacts on psychological well-being (Adams et al., 2016).

Teenagers are at a stage of psychological development that is heavily influenced by social relationships and the need for peer acceptance. At this age, self-identity begins to form, and teens tend to seek social validation and support from their peers to strengthen their self-confidence (Oberst et al., 2017). FoMO often occurs when teens are worried about missing out on important social experiences or missing opportunities to strengthen relationships with peers, which can have an impact on their emotional development. In addition, social media magnifies the role of peer groups in shaping teens' self-perceptions, as they are constantly exposed to other people's updates and activities (Fumagalli et al., 2021). Unmanaged FoMO can lead to feelings of anxiety, stress, and social isolation, which have negative impacts on mental well-being (Casale & Fioravanti, 2020).

The trend of social media usage in Indonesia, especially in big cities like Bandung, has increased rapidly in recent years, especially among teenagers. According to recent reports, Indonesia is one of the countries with the largest number of social media users in the world, with platforms such as Instagram, TikTok, and WhatsApp being very popular among teenagers (Fumagalli et al., 2021). In Bandung, as one of the cities with good access to technology and a large teenage population, high school students are highly exposed to these various social media platforms (Brogly et al., 2021; Q. Li et al., 2019). The use of social media has become part of their daily lives, used not only to communicate with friends, but also to get information, entertainment, and build identity and social status. Teenagers in Bandung tend to use social media as a tool to show their social presence and follow emerging trends, which often encourages them to continue being active online (Liu & Ma, 2020). This constant exposure increases their risk of experiencing social pressure, including FoMo, because they feel the need to always be connected and involved in the activities carried out by their friends in cyberspace (Feng et al., 2021).

The psychological impact of FoMo on adolescents can have serious consequences for their mental wellbeing, including increased anxiety, stress and life dissatisfaction. Adolescents who experience FoMO often worry about missing out on social activities that their friends are doing, which can trigger feelings of anxiety that they are not accepted into the group (Brailovskaia et al., 2021). The pressure to always be connected and active on social media also causes ongoing stress, where they feel compelled to monitor updates and participate in various activities, even though this disrupts their life balance (Butt & Arshad, 2021). Previous research has shown a negative relationship between FoMO and mental health in adolescents; individuals with high levels of FoMO tended to experience greater stress and anxiety (Servidio, 2021). Additionally, adolescents with high FoMO reported greater life dissatisfaction, potentially leading to more serious mental health issues such as depression (Butt & Arshad, 2021).

The urgency of research on FoMo in high school students in Bandung is very important considering the significant psychological impact that this phenomenon can cause. In the digital era dominated by the use of social media, teenagers are more susceptible to anxiety,

stress, and life dissatisfaction due to the pressure to always be connected and noticed in their social interactions. This study aims primarily to describe the level of FoMo in high school students in Bandung.

METHOD

This study used a descriptive design to describe the level of FoMo among high school students in Bandung. This design was chosen to provide a clear picture of the condition of FoMo among students, as well as to identify factors that influence its emergence. Through a descriptive approach, this study will collect relevant quantitative data, which will then be analyzed to describe the level of FoMo and the characteristics of the respondents. The sampling technique used in this study is total sampling, where the entire population that meets the criteria will be included as respondents. In this study, the sample consisted of 100 high school students in Bandung who were randomly selected from various schools to ensure diversity in the characteristics of the respondents. Data were collected by distributing a designed questionnaire. The questionnaire used was the Online Fear of Missing Out (ON-FoMo) Scale, which aims to explore the relationship between fear of missing out and various psychological aspects and digital behavior. This questionnaire has been translated into Indonesian and consists of 20 questions divided into four dimensions: anxiety, need to belong, addiction, and need for popularity. Scoring on the ON-FoMo instrument was carried out using a Likert scale with a range of 1-5, so that the total score ranges from 20-100. This research instrument consists of 18 favorable items and 2 unfavorable items. Fear of Missing Out in adolescents is categorized based on a standard deviation of 8.96309 and a mean of 57.2690. Low = score <49 Medium = $49 \leq \text{score} < 67$ High = $67 \leq \text{Score}$.

This study pays attention to ethical aspects that include several important principles. First, the principle of autonomy is applied by providing clear explanations to respondents regarding the purpose of the study and their right to ask questions and withdraw from the study at any time without facing consequences. Second, the principle of justice is implemented to ensure that all students have an equal opportunity to participate in the study without discrimination. In addition, the principle of beneficence and maleficence is upheld by designing the study to maximize the benefits for respondents while minimizing the risks or negative impacts that may arise. Finally, confidentiality is strictly maintained, where the data collected is kept confidential and used only for research purposes, and the identity of the respondents is ensured to remain anonymous. Data analysis was conducted using a frequency distribution test to describe the characteristics of respondents, such as age, class, gender, and frequency of gadget use. The data obtained will be presented in the form of a frequency distribution table, which will make it easier to understand and analyze sleep quality and FoMo levels in high school students in Bandung.

RESULT

The results of the study show the distribution of respondents based on age, gender, and class. The largest respondents were in the 16-year-old age group with a total of 36 people (36%), which reflects that most respondents are at the age usually associated with grade XI students. Based on gender, the majority of respondents were female, as many as 70 people (70%), while male respondents numbered 30 people (30%). Based on class level, 40% of respondents came from grade X, followed by 35% from grade XI, and 25% from grade XII. This shows that the distribution of students is relatively even across grade levels, with the largest number coming from grade X.

Table 1.
Distribution of Respondents (n=180)

Characteristics	f	%
Age	15	20
	16	36
	17	31
	18	13
Gender	Male	30
	Female	70
Class	X	40
	XI	35
	XII	25

Table 2.
Result of Classification of Fear of Missing Out

Variable	Mean	Min Max	Frequency (f)			Percentage (%)		
			High	Medium	Low	High	Medium	Low
Fear of Missing Out	60.94	35-100	30	42	28	30	42	28

The results of the study related to the level of Fear of Missing Out (FoMO) showed that the average FoMO value among respondents was 60.94, with a range of values between 35 and 100. As many as 30% of respondents (30 people) had a high level of FoMO, while 42% of respondents (42 people) were at a moderate level, and 28% of respondents (28 people) showed a low level of FoMO.

DISCUSSION

The age distribution of respondents in this study showed that the 16-year-old age group was the largest, covering 36% of the total sample. Middle adolescence, which is 15 to 17 years old, is a critical period in an individual's social-emotional development. Based on the literature, adolescents at this age are at a stage where the need to be accepted by peers and seek social validation is very high, making them more vulnerable to intense social pressure (Cheng, 2021). One form of social pressure that adolescents often experience is the desire to stay connected online so as not to be left behind from what is happening among their friends, known as FoMo (Yosep, Mardhiyah, et al., 2023). Previous studies have shown that dependence on online social interactions in this age group contributes to an increased risk of FoMO, especially because they are highly influenced by social activities and perceptions of popularity on social media (Gupta & Sharma, 2021; Tandon et al., 2021).

The gender distribution in this study shows a predominance of female respondents, which comprises 70% of the total sample. This finding is relevant to previous studies showing that women tend to be more active in using social media than men, and are more affected by social needs and pressure from the online environment (Alfuraih & Alawidi, 2021; Servidio, 2021). Several studies have shown that women use social media more often to communicate and build relationships, which indirectly increases their likelihood of experiencing FoMo (Long et al., 2021; Tandon et al., 2021). Women are usually more sensitive to social interactions and tend to be more affected by group dynamics and the need for social validation through social media, making them more susceptible to experiencing anxiety related to FoMo (Brailovskaia et al., 2021). On the other hand, although men can also experience FoMO, they tend to use it for more pragmatic purposes, such as seeking information, which may make them slightly more protected from intense social pressure (Kamolthip et al., 2022).

The results showed that students in grades X and XI dominated the sample, with 40% and 35% of the total respondents, respectively. Grade X students, who have just entered high school, may have just begun to explore the use of social media as a means to fit in and build new social relationships. At this stage, although their involvement in social media may not be

intense, the need to connect and be accepted by peers is starting to develop (Shi et al., 2022). On the other hand, grade XI students are usually more involved in more intense online social interactions, because they have an established social circle and are more active in maintaining relationships through social media. Previous studies have indicated that students in higher grades are more susceptible to experiencing FoMo, because the reliance on social media to keep up with social dynamics and maintain status among friends increases as the grade increases (Alinejad et al., 2022; Tanrikulu & Mouratidis, 2022).

The results of the study showed that the majority of respondents had a moderate level of FoMo, which was 42% of students. This distribution indicates that many students actively use social media but still maintain a fairly good social balance in real life. The moderate level of FoMo indicates that although students are involved in social media and feel the pressure to always be connected, they are not yet fully dependent on online interactions to meet their social needs (Akbari et al., 2021; Coskun & Karayagiz-Muslu, 2019). Other study support this finding, stating that teenagers who have a moderate level of FoMo usually still have a healthy social life outside of social media, so they are not too susceptible to excessive anxiety or dissatisfaction with life (Gong et al., 2022). Possible causes could be due to peer influence, technological developments, and social pressure to stay up-to-date, but these students are still able to manage their time and involvement in social media quite well (Y.-X. Li et al., 2023).

As many as 30% of respondents in this study had high levels of FoMo, which has significant implications for their psychological well-being. High FoMo is often associated with increased anxiety, stress, and dissatisfaction with life, as students who experience it feel pressured to always be involved in online social activities and fear missing out on important information or events (Talan et al., 2024). Previous research has shown a negative relationship between high FoMo and mental health, with individuals who are highly affected by FoMo tending to have higher levels of anxiety, lower levels of happiness, and feelings of isolation (Astleitner et al., 2023; Zhang et al., 2023). Students with high FoMo may be more susceptible to the effects of online social pressure than their peers, as they feel compelled to constantly monitor social media in order to stay relevant and accepted by their peer group (Servidio, 2023).

The findings of this study have important implications for educational and psychosocial interventions in schools and students' social environments. Given the significant proportion of students experiencing moderate to high FoMo, schools need to consider intervention programs aimed at helping students manage FoMo and understand its impact on their mental well-being (Jabeen et al., 2023). These programs could include digital literacy training that not only teaches students how to use technology wisely but also helps students develop awareness of the negative impacts of excessive social media use. In addition, it is important to strengthen social support in schools, such as building inclusive communities and reducing excessive social pressure among students (Jabeen et al., 2023). Support from teachers and counselors is also needed to help students manage feelings of anxiety that arise from online social pressure, with the ultimate goal of reducing the risk of high FoMo and improving students' mental well-being (Wolniewicz et al., 2019).

CONCLUSION

This study aims to describe the level of FoMo among high school students in Bandung, involving 100 respondents with distribution based on age, gender, and class. The results showed that the majority of respondents had moderate levels of FoMo, with 30% of

respondents experiencing high FoMO. The analysis showed that age, gender, and class factors contributed significantly to the experience of FoMO, where students aged 16 years and female tended to have higher levels of FoMO. These findings suggest that although many students have a healthy social balance, there are groups that are at high risk of experiencing the negative impacts of online social pressure, such as anxiety and life dissatisfaction. Nursing implications of this study include the need for nurses and healthcare professionals to raise awareness of FoMO as an important mental health issue among adolescents. Nurses should play an active role in providing health education and psychosocial support to students, helping them manage the negative impacts of social media, and encouraging the development of digital literacy skills. For further research recommendations, it is suggested that further research be conducted with a longitudinal design to observe changes in FoMO levels over time and their relationship to mental health.

REFERENCES

- Adams, S. K., Williford, D. N., Vaccaro, A., Kisler, T. S., Francis, A., & Newman, B. (2016). The young and the restless: Socializing trumps sleep, fear of missing out, and technological distractions in first-year college students. *International Journal of Adolescence and Youth*, 22. <https://doi.org/10.1080/02673843.2016.1181557>
- Akbari, M., Seydavi, M., Palmieri, S., Mansueto, G., Caselli, G., & Spada, M. M. (2021). Fear of missing out (FoMO) and internet use: A comprehensive systematic review and meta-analysis. *Journal of Behavioral Addictions*, 10(4), 879–900. <https://doi.org/10.1556/2006.2021.00083>
- Alfuraih, & Alawidi, H. M. (2021). Fear of missing out (FoMO) among undergraduate students in relation to attention distraction and learning disengagement in lectures. *Education and Information Technologies*, 26. <https://doi.org/10.1007/s10639-020-10361-7>
- Alinejad, V., Parizad, N., Yarmohammadi, M., & Radfar, M. (2022). Loneliness and academic performance mediates the relationship between fear of missing out and smartphone addiction among Iranian university students. *BMC Psychiatry*, 22(1), 550. <https://doi.org/10.1186/s12888-022-04186-6>
- Astleitner, H., Bains, A., & Hormann, S. (2023). The effects of personality and social media experiences on mental health: examining the mediating role of fear of missing out, ghosting, and vaguebooking. *Comput Hum Behav*, 138. <https://doi.org/10.1016/j.chb.2022.107436>
- Brailovskaia, J., Stirnberg, J., Rozgonjuk, D., Margraf, J., & Elhai, J. D. (2021). From low sense of control to problematic smartphone use severity during Covid-19 outbreak: The mediating role of fear of missing out and the moderating role of repetitive negative thinking. *PloS One*, 16(12), e0261023–e0261023. <https://doi.org/10.1371/journal.pone.0261023>
- Brogly, C., Bauer, M. A., Lizotte, D. J., Press, M. L., MacDougall, A., Speechley, M., Huner, E., Mitchell, M., Anderson, K. K., & Pila, E. (2021). An app-based surveillance system for undergraduate students' mental health during the covid-19 pandemic: Protocol for a prospective cohort study. *JMIR Research Protocols*, 10(9). <https://doi.org/10.2196/30504>
- Butt, A. K., & Arshad, T. (2021). The relationship between basic psychological needs and phubbing: fear of missing out as the mediator. *PsyCh J*, 10. <https://doi.org/10.1002/pchj.483>
- Casale, S., & Fioravanti, G. (2020). Factor structure and psychometric properties of the Italian version of the fear of missing out scale in emerging adults and adolescents. *Addictive Behaviors*, 102. <https://doi.org/10.1016/j.addbeh.2019.106179>
- Cheng, P. (2021). The relationship between loneliness and adolescents' fear of missing out:

- The mediating effect of social media use intensity. Chinese. *Journal of Clinical Psychology*, 29. <https://doi.org/10.16128/j.cnki.1005-3611.2021.01.038>
- Coco, G. L., Salerno, L., & Franchina, V. (2020). Examining bi-directionality between fear of missing out and problematic smartphone use. A two-wave panel study among adolescents. *Addict Behav*, 106. <https://doi.org/10.1016/j.addbeh.2020.106360>
- Coskun, S., & Karayagız-Muslu, G. (2019). Investigation of problematic mobile phones use and fear of missing out (FoMO) level in adolescents. *Community Mental Health Journal*, 55. <https://doi.org/10.1007/s10597-019-00422-8>
- Feng, S., Zhang, Q., & Ho, S. M. Y. (2021). Fear and anxiety about COVID-19 among local and overseas Chinese university students. *Health and Social Care in the Community*, 29(6), e249–e258. <https://doi.org/10.1111/hsc.13347>
- Fumagalli, E., Dolmatzian, M. B., & Shrum, L. J. (2021). Centennials, FOMO, and Loneliness: An Investigation of the Impact of Social Networking and Messaging/VoIP Apps Usage During the Initial Stage of the Coronavirus Pandemic. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.620739>
- Gong, Z., Lv, Y., Jiao, X., Liu, J., Sun, Y., & Qu, Q. (2022). The relationship between COVID-19-related restrictions and fear of missing out, problematic smartphone use, and mental health in college students: the moderated moderation effect of resilience and social support. *Front Public Health*, 10. <https://doi.org/10.3389/fpubh.2022.986498>
- Gupta, M., & Sharma, A. (2021). Fear of missing out: A brief overview of origin, theoretical underpinnings and relationship with mental health. *World Journal of Clinical Cases*, 9. <https://doi.org/10.12998/wjcc.v9.i19.4881>
- Hikmat, R., Suryani, S., Yosep, I., & Jeharsae, R. (2024). Empathy ' s Crucial Role : Unraveling Impact on Students Bullying Behavior - A Scoping Review. *Journal of Multidisciplinary Healthcare*, 17, 3483–3495. <https://doi.org/10.2147/JMDH.S469921>
- Jabeen, F., Tandon, A., Sithipolvanichgul, J., Srivastava, S., & Dhir, A. (2023). Social media-induced fear of missing out (FoMO) and social media fatigue: the role of narcissism, comparison and disclosure. *J Bus Res*, 159. <https://doi.org/10.1016/j.jbusres.2023.113693>
- Kamolthip, R., Chirawat, P., Ghavifekr, S., Gan, W. Y., Tung, S. E., Nurmala, I., Nadhiroh, S. R., Pramukti, I., & Lin, C.-Y. (2022). Problematic Internet use (PIU) in youth: a brief literature review of selected topics. *Current Opinion in Behavioral Sciences*, 46. <https://doi.org/10.1016/j.cobeha.2022.101150>
- Li, Q., Wang, J., Zhao, S., & Jia, Y. (2019). Validity and reliability of the Chinese version of the fear of missing out scale in college students. *Chinese Mental Health Journal*, 33. <https://doi.org/10.3969/j.issn.1000-6729.2019.04.014>
- Li, Y.-X., Zhang, Y.-H., Yang, R., Lian, S.-L., Yan, L., & Zhu, X.-M. (2023). Relationship Between Perceived Social Norms and Phubbing: Individual Control and Fear of Missing Out as Mediators. *International Journal of Mental Health and Addiction*, 21(3), 1898–1913. <https://doi.org/10.1007/s11469-021-00696-8>
- Liu, C., & Ma, J. (2020). Social support through online social networking sites and addiction among college students: The mediating roles of fear of missing out and problematic smartphone use. *Current Psychology*, 39(6), 1892–1899. <https://doi.org/10.1007/s12144-018-0075-5>
- Long, J., Wang, P., Liu, S., & Lei, L. (2021). Materialism and adolescent problematic smartphone use: The mediating role of fear of missing out and the moderating role of narcissism. *Current Psychology*, 40. <https://doi.org/10.1007/s12144-019-00526-0>
- Milyavskaya, M., Saffran, M., Hope, N., & Koestner, R. (2018). Fear of missing out: Prevalence, dynamics, and consequences of experiencing FOMO. *Motivation and Emotion*, 42. <https://doi.org/10.1007/s11031-018-9683-5>

- Oberst, U., Wegmann, E., Stodt, B., Brand, M., & Chamarro, A. (2017). Negative consequences from heavy social networking in adolescents: The mediating role of fear of missing out. *Journal of Adolescence*, 55. <https://doi.org/10.1016/j.adolescence.2016.12.008>
- Servidio, R. (2021). Self-control and problematic smartphone use among Italian University students: The mediating role of the fear of missing out and of smartphone use patterns. *Current Psychology*, 40(8), 4101–4111. <https://doi.org/10.1007/s12144-019-00373-z>
- Servidio, R. (2023). Fear of missing out and self-esteem as mediators of the relationship between maximization and problematic smartphone use. *Current Psychology*, 42(1), 232–242. <https://doi.org/10.1007/s12144-020-01341-8>
- Shi, Z. F., Guan, J. L., Chen, H. H., Huang, S. J., Liu, B. J., & Chen, X. H. (2022). The relationship between trait fear of missing out and smartphone addiction in college students: a mediating and moderating model. *Chin J Clin Psychol*, 30. <https://doi.org/10.16128/j.cnki.1005-3611.2022.03.033>
- Talan, T., Doğan, Y., & Kalinkara, Y. (2024). Effects of Smartphone Addiction, Social Media Addiction and Fear of Missing Out on University Students' Phubbing: A Structural Equation Model. *Deviant Behavior*, 45(1), 1–14. <https://doi.org/10.1080/01639625.2023.2235870>
- Tandon, A., Dhir, A., Almugren, I., AlNemer, G. N., & Mäntymäki, M. (2021). Fear of missing out (FoMO) among social media users: a systematic literature review, synthesis and framework for future research. *Internet Res*, 31. <https://doi.org/10.1108/INTR-11-2019-0455>
- Tanrikulu, G., & Mouratidis, A. (2022). Life aspirations, school engagement, social anxiety, social media use and fear of missing out among adolescents. *Curr Psychol*. <https://doi.org/10.1007/s12144-022-03917-y>
- Wolniewicz, C. A., Rozgonjuk, D., & Elhai, J. D. (2019). Boredom proneness and fear of missing out mediate relations between depression and anxiety with problematic smartphone use. *Human Behavior and Emerging Technologies*, 2. <https://doi.org/10.1002/hbe2.159>
- Wolniewicz, C. A., Tiamiyu, M. F., Weeks, J. W., & Elhai, J. D. (2018). Problematic smartphone use and relations with negative affect, fear of missing out, and fear of negative and positive evaluation. *Psychiatry Research*, 262. <https://doi.org/10.1016/j.psychres.2017.09.058>
- Yosep, I., Mardhiyah, A., Suryani, S., & Mediani, H. S. (2023). Hardiness and Zoom Fatigue on Nursing Students: A Cross-Sectional Study in Indonesia During Online Learning. *Advances in Medical Education and Practice*, 14, 1137–1145. <https://doi.org/10.2147/AMEP.S430776>
- Yosep, I., Suryani, S., Mediani, H. S., Mardhiyah, A., & Maulana, I. (2023). Digital Therapy: Alleviating Anxiety and Depression in Adolescent Students During COVID-19 Online Learning - A Scoping Review. *Journal of Multidisciplinary Healthcare*, 16, 1705–1719. <https://doi.org/10.2147/JMDH.S416424>
- Zhang, M. X., Zhou, H., & Yang, H. M. (2023). The prospective effect of problematic smartphone use and fear of missing out on sleep among chinese adolescents. *Curr Psychol*, 42. <https://doi.org/10.1007/s12144-021-01863-9>