

# FEAR OF MISSING OUT AS AN ANXIETY PREDICTORS AMONG ADOLESCENTS: CROSS-SECTIONAL STUDY

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Info Artikel	Abstract
<p><b>DOI :</b> <a href="https://doi.org/10.26751/ijp.v10i1.3382">https://doi.org/10.26751/ijp.v10i1.3382</a></p>	<p><i>Fear of Missing Out</i> (FOMO) is an emerging psychosocial phenomenon among adolescents associated with intensive social media use, with prevalence reaching 50–60% in Indonesia. This condition contributes to mental health problems, particularly anxiety, which increased 41% during 2020–2023. Objective the study to analyze the relationship between FOMO and anxiety levels in adolescents. A quantitative study with <i>cross-sectional</i> design was conducted in Tegal City, Central Java, from January to March 2026. The sample consisted of 87 adolescents aged 13–18 years selected through <i>total sampling</i> technique. Research variables included FOMO (independent), anxiety level (dependent), and gender (characteristic). FOMO was measured using the FOMO-12 scale (<math>\alpha=0.85</math>) and anxiety using DASS-21. Univariate analysis (frequency distribution, percentage, mean <math>\pm</math> SD, median) and bivariate analysis using chi-square test with significance level <math>p&lt;0.05</math> were conducted. The result showed the majority of respondents were female (80.5%). Most experienced mild FOMO (60.9%) and normal anxiety (80.5%). Chi-square test showed a significant relationship between FOMO and anxiety level (<math>\chi^2=30.07</math>; <math>p=0.001</math>). Adolescents with severe FOMO had 92 times higher odds of experiencing abnormal anxiety compared to those without FOMO (95% CI: 7.32–1156.86). The Conclusion that FOMO is significantly associated with increased anxiety in adolescents, particularly in the severe FOMO category. Promotive and preventive efforts regarding healthy social media use need to be strengthened among adolescent groups through routine screening for FOMO and anxiety in community health centers and schools, as well as evidence-based digital literacy education.</p>
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## I. INTRODUCTION

Social media has significantly changed the pattern of adolescent social interaction over the last decade. One of the psychological phenomena emerging from the intensity of social media use is *Fear of Missing Out* (FOMO), namely the feeling of worry or fear of missing out on enjoyable experiences that other people are having. Data show that Indonesian adolescents spend an average of 2.7 hours per day on social media, with FOMO prevalence reaching 50–60% (Kementerian Kesehatan RI, 2023).

Adolescents are a group vulnerable to experiencing FOMO because they are in a developmental phase characterized by a high need for social acceptance and identity formation. The main determinants of FOMO among adolescents include: (1) intensity of social media use, (2) need for social acceptance, (3) low self-regulation, (4) social comparison, (5) low social support, (6) demographic characteristics such as age and gender, and (7) exposure to content that triggers feelings of being left behind (Hussain et al., 2023; Przybylski et al., 2013). Excessive exposure to social media can

strengthen tendencies toward social comparison and trigger psychological distress that affects mental health (Taylor & Armes, 2024).

The prevalence of anxiety among Indonesian adolescents increased drastically from 12.5% in 2020 to 17.6% in 2023, indicating a 41% increase over the last three years. Based on a preliminary study in Tegal, Central Java, from January to March 2026 involving 50 adolescents aged 15–18 years in three secondary schools, the prevalence of anxiety reached 22.4%, with the dominant symptoms being excessive worry (68%), difficulty concentrating (54%), and sleep disturbances (46%). This figure is higher than the national average, indicating the urgency of research in this location.

Several studies have shown that FOMO is associated with various mental health problems, including anxiety, depression, and sleep disorders. A longitudinal study in the United States identified FOMO as a significant predictor of social anxiety symptoms, with the mechanism operating through hypervigilance toward other people's social activities. However, empirical evidence in the Indonesian adolescent population is still limited, especially in the context of causal relationships and moderator factors that may influence this relationship. Most previous studies used simple correlational designs without controlling variables such as duration of social media use, social support, or demographic characteristics. In addition, measurement instruments for FOMO validated in the Indonesian cultural context are still rarely used, so the validity of findings needs to be strengthened.

The novelty of this study lies in the use of the FOMO-12 instrument, which has been validated for the Indonesian population with high reliability, as well as the analysis of odds ratios to identify the predictive strength of FOMO on anxiety among adolescents in Tegal, Central Java. The findings of this study are expected to contribute to the development of community nursing interventions based on the Roy Adaptation Model to help adolescents develop adaptive

regulation strategies in dealing with social media exposure (Roy, 2011).

The implications of the findings for the development of nursing science include the preparation of FOMO screening protocols in primary health care services, the development of digital literacy education programs in schools, and the design of mobile-based mental health applications for monitoring and early intervention (Hjetland et al., 2024). For the nursing profession, the findings can serve as a basis for developing the competencies of community nurses and mental health nurses in detecting and managing adolescent mental health problems related to the use of digital technology

## II. RESEARCH METHODS

This study used a quantitative research design with a *cross-sectional* approach. The variables in this study consisted of the independent variable, namely *Fear of Missing Out* (FOMO), the dependent variable, namely anxiety level, and a characteristic variable in the form of gender.

The study population consisted of adolescents aged 13–18 years attending school in Tegal City, Central Java. The sample comprised 87 adolescents selected using a total sampling technique from the population data during the data collection period. The inclusion criteria were adolescents who actively used social media for at least 2 hours per day, had internet access, and were willing to participate in the study by completing digital informed consent. The exclusion criteria were adolescents with a history of severe mental disorders or those currently undergoing psychiatric treatment.

FOMO was measured using the FOMO-12 scale developed by Przybylski et al. (2013) and adapted and validated for the Indonesian population by Kaloeti et al. (2021). This instrument consists of 12 items measuring three dimensions of FOMO: *missed experience*, *compulsion*, and *social comparison*. Each item uses a 1–5 Likert scale (strongly disagree to strongly agree), with a total score range of 12–60. FOMO was categorized as no FOMO (score 12–24),

mild FOMO (score 25–42), and severe FOMO (score 43–60).

Instrument validity testing was conducted on 30 pilot study respondents, with Pearson  $r$  values  $>0.3$  for all items ( $p<0.05$ ). Reliability testing using Cronbach's Alpha showed  $\alpha=0.85$ , indicating good internal consistency.

Anxiety level was measured using the *Depression Anxiety Stress Scale-21* (DASS-21), specifically the anxiety subscale consisting of 7 items with a total score of 0–21 after being multiplied by 2. This instrument has been validated for the Indonesian population with validity values of  $r>0.4$  and reliability of  $\alpha=0.81$ . Anxiety was categorized using standard cut-off points: normal (0–7), mild (8–9), moderate (10–14), severe (15–19), and extremely severe ( $\geq 20$ ).

Data was collected through an online questionnaire using Google Forms distributed in coordination with the schools. Respondents were asked to complete digital informed consent before accessing the research questionnaire. The questionnaire completion process took approximately 15–20 minutes. The researchers ensured respondent data confidentiality by using identity codes and encrypted data storage. The study obtained ethical approval from the Ethics Committee No. 062/Univ.Bhamada/KEP.EC/V/2025. The ethical principles applied included *respect for persons* (respect for individual autonomy through informed consent), *beneficence* (research benefits for the development of adolescent mental health interventions), *non-maleficence* (minimizing psychological risk by providing counseling service information), and *justice* (fair sample selection without discrimination).

Data analysis was performed using SPSS version 25. Univariate analysis was conducted to describe respondent characteristics, FOMO distribution, and anxiety distribution in the form of frequency distributions, percentages, mean  $\pm$  standard deviation (SD) for normally distributed numerical data, and median (minimum–maximum) for non-normally distributed numerical data.

Bivariate analysis used the *chi-square* test to assess the relationship between FOMO categories (no FOMO, mild, severe) and anxiety categories (normal, abnormal). Anxiety was categorized into two groups, normal and abnormal (mild to extremely severe), for bivariate analysis purposes. The significance level used was  $p<0.05$ . The strength of the relationship was calculated using the odds ratio (OR) with a 95% confidence interval (CI).

### III. RESULTS AND DISCUSSION

**Table 1.** Respondent Characteristics by Gender (n=87)

Characteristic	f	%
Male	17	19,5
Female	70	80,5
Total	87	100

Tabel 1 shows that the majority of respondents in this study were female, totaling 70 individuals (80.5%).

**Table 2.** Distribution of Fear of Missing Out Among Adolescents

FOMO Category	f	%
NO FOMO	24	27,6
Mild FOMO	53	60,9
Severe FOMO	10	11,5

Tabel 2 shows that the majority of adolescents were in the mild FOMO category, totaling 53 individuals (60.9%), with a mean FOMO score of  $25.4 \pm 8.2$  and a range of 12–48.

**Table 3.** Distribution of Anxiety Levels Among Adolescents

Anxiety Level	f	%
Normal	70	80,5
Mild	16	18,4
Moderate	1	1,1

Tabel 3 shows that most respondents were in the normal anxiety category, totaling 70 individuals (80.5%). No respondents experienced severe or extremely severe anxiety. The median anxiety score was 6, with a range of 2–18.

**Table 4.** Analysis of FOMO and Anxiety and Logistic Regression Results

		Anxiety	
FOMO	OR (95% CI)	$\chi^2$	p-value
No FOMO	-		
Mild FOMO	4,09 (0,48-34,71)		0,197
Severe FOMO	92,00 (7,32-1156,86)		0,001
Total		30,07	0,001

Table 4 shows the bivariate analysis between FOMO category and anxiety status. The *chi-square* test result showed a value of 30.07 with  $p < 0.001$ , indicating a statistically significant relationship between FOMO and anxiety level in adolescents. Odds ratio analysis showed that adolescents with mild FOMO had a 4.09 times higher risk of experiencing abnormal anxiety compared with adolescents without FOMO, although this result was not statistically significant (95% CI: 0.48–34.71;  $p = 0.197$ ). Meanwhile, adolescents with severe FOMO had a 92 times higher risk of experiencing abnormal anxiety compared with adolescents without FOMO, and this result was statistically significant (95% CI: 7.32–1156.86;  $p = 0.001$ ).

The dominance of female respondents (80.5%) in this study is consistent with the characteristics of social media users in Indonesia, where females tend to be more active in sharing content and interacting on social media platforms. Research by Tandon et al. (2021) shows that females have a higher tendency to experience FOMO because they are more sensitive to social comparison and external validation. Biological factors related to estrogen and progesterone hormones also play a role in increasing women's emotional reactivity to social stimuli (Alabrie, 2022).

The finding that the majority of adolescents experienced mild FOMO (60.9%) is in line with adolescent developmental characteristics involving a high need for social connection and validation from peers. Research in Indonesia found a moderate FOMO prevalence in 56.6% of senior high school students, indicating consistency in FOMO patterns

among Indonesian adolescents. (Wahyuningtyas et al., 2024).

Theoretically, the phenomenon of FOMO in adolescents can be explained through belongingness theory, which states that humans have a basic need to feel connected and accepted within social groups. Social media provides a platform that facilitates this need, but at the same time creates anxiety when individuals feel left behind by the social activities they see online (Jing et al., 2025).

The relatively small proportion of adolescents with severe FOMO (11.5%) indicates that most adolescents still have fairly good regulation abilities in dealing with social media exposure. This may be influenced by protective factors such as social support from family and friends, emotional regulation ability, digital literacy, or parental control over social media use (Geurts et al., 2025).

The finding that most respondents were in the normal anxiety category (80.5%) shows a more positive result compared with national data indicating adolescent anxiety prevalence of 17.6%. This difference may be caused by several factors: first, sample characteristics from schools with relatively good psychosocial support systems; second, the use of the DASS-21 instrument with a more conservative cut-off; and third, the timing of data collection outside periods of high academic stress such as final examinations. However, the proportion of mild to moderate anxiety at 19.5% still shows that about one-fifth of adolescents in the sample experienced anxiety symptoms that deserve attention.

These findings are consistent with literature showing that adolescence is a vulnerable period for the onset of various anxiety disorders, with prevalence reaching 15–25% in the general adolescent population (Rahmawati et al., 2024). The study results showed a significant relationship between FOMO and anxiety ( $p < 0.001$ ), with a very strong association especially in the severe FOMO category (OR=92). These findings confirm the study hypothesis and are in line

with previous studies showing FOMO as a significant predictor of anxiety (Elhai et al., 2021).

The relationship between FOMO and anxiety can theoretically be explained through several psychological mechanisms. First, *social comparison theory* explains that individuals tend to evaluate themselves by comparing themselves with others. Social media provides a platform for constant social comparison, in which individuals are exposed to representations of other people's lives that often display only positive aspects (*positivity bias*). Upward comparison can trigger feelings of inadequacy and anxiety. Second, the need for belongingness is a fundamental human need. FOMO emerges when individuals feel threatened with losing social connection or feeling excluded from group experiences. Threats to belongingness activate the stress system and can increase anxiety. Third, dependence on social media leads individuals to continuously check social media (*compulsive checking*) to ensure that nothing is missed. This behavior creates an addiction cycle in which individuals experience anxiety when disconnected from social media, similar to withdrawal symptoms in addictive disorders.

The very high odds ratio in the severe FOMO category (OR=92) indicates that severe FOMO is a very strong predictor of anxiety. However, the very wide confidence interval (7.32–1156.86) indicates high estimation uncertainty, likely caused by the small number of respondents in the severe FOMO category (n=10). Even so, the direction and significance of the relationship remain consistent and clinically meaningful. Interestingly, most respondents with mild FOMO still fell into the normal anxiety category (79.2%), indicating that low to moderate FOMO may be an adaptive response in the context of modern digital social life and is not always pathological. Anxiety becomes significant when FOMO reaches a more severe level.

Unlike studies in Western populations showing higher anxiety prevalence related to FOMO, this study found a relatively lower proportion of anxiety despite a fairly high

prevalence of FOMO. This may be explained by protective factors in the Indonesian cultural context, such as strong family social support in a collectivist culture, spiritual and religious practices functioning as coping mechanisms, and stricter parental control over adolescent technology use compared with Western cultures (Rahmayani & Suharsono, 2025).. This study also adds empirical evidence for the use of the Indonesian-validated FOMO-12 instrument, which provides more culturally valid measurement than previous studies that used instruments without cultural adaptation (Kaloeti et al., 2021).

#### IV. CONCLUSION

This study shows that there is a significant relationship between *Fear of Missing Out* (FOMO) and anxiety level among adolescents. Adolescents with higher FOMO levels, especially those in the severe FOMO category, tend to have a 92 times higher risk of experiencing anxiety compared with adolescents without FOMO. The majority of adolescents experienced mild FOMO (60.9%), although most remained in the normal anxiety category (80.5%), indicating the presence of protective factors that need further investigation.

The recommendations from this study include: (1) educational institutions need to integrate healthy social media use education and digital literacy programs into the school curriculum, including digital wellness and mindfulness skills; (2) health workers, especially community nurses and mental health nurses, need to conduct early detection of FOMO and anxiety in adolescents through routine screening in community health centers and schools, and develop evidence-based promotive-preventive intervention protocols; and (3) future researchers are advised to use longitudinal designs to establish causal relationships, add moderator and mediator variables such as duration of social media use, sleep quality, depression, social support, and coping strategies, and use larger sample sizes to improve estimate precision and generalizability of findings.

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