



THE RELATIONSHIP BETWEEN OF FEAR OF MISSING OUT (FOMO) ON HEALTHY JOGGING BEHAVIOR AMONG ADOLESCENTS: A HEALTH BELIEF MODEL APPROACH

Diva Rizqi Arifah*, Bambang Setiaji, Dian Utama Pratiwi Putri, Atikah Adyas

Universitas Mitra Indonesia, Jl. ZA. Pagar Alam No.7, Gedung Meneng, Rajabasa, Lampung City, Lampung 40115, Indonesia

*dian@umitra.ac.id

ABSTRACT

The rapid expansion of social media use in the digital era has intensified the phenomenon of Fear of Missing Out (FOMO), influencing various aspects of adolescent behavior, including physical activity patterns. Jogging has emerged as a popular and accessible form of exercise among adolescents; however, participation is often driven by social trends rather than sustained health motivation. This study aimed to analyze the influence of Fear of Missing Out (FOMO) on healthy jogging behavior among adolescents in Metro City in 2025 using the Health Belief Model (HBM) framework. A quantitative cross-sectional design was employed involving 100 adolescents aged 15–24 years selected through purposive sampling. Data were collected using validated and reliable questionnaires measuring FOMO and healthy jogging behavior and analyzed using Pearson and Spearman correlation tests. The findings revealed a significant positive relationship between FOMO and healthy jogging behavior ($r = 0.252$; $p = 0.012$), as well as between FOMO and weekly jogging frequency ($p = 0.205$; $p = 0.041$). Duration of social media use was positively associated with both FOMO and jogging behavior, with a strong correlation observed for jogging behavior ($p = 0.605$; $p < 0.001$). These results indicate that FOMO may function as a digital social trigger that encourages adolescent participation in jogging activities.

Keywords: adolescents; fear of missing out (FOMO); healthy jogging behavior; health belief model

How to Cite (in APA Style)

Arifah, D. R., Setiaji, B., Putri, D. U. P., & Adyas, A. (2026). The Relationship between of Fear of Missing Out (FOMO) on Healthy Jogging Behavior among Adolescents: A Health Belief Model Approach. *Indonesian Journal of Global Health Research*, 8(2), 589–596. <https://doi.org/10.37287/ijghr.v8i2.1591>.

INTRODUCTION

Non-communicable diseases (NCDs) remain a major global public health challenge, and insufficient physical activity is one of the leading modifiable risk factors contributing to their increasing prevalence among adolescents (World Health Organization, 2022). The World Health Organization recommends that adolescents engage in at least 60 minutes of moderate-to-vigorous physical activity daily to support optimal physical growth, mental well-being, and long-term health outcomes (World Health Organization, 2022). However, the rapid development of digital technology has contributed to a more sedentary lifestyle characterized by prolonged screen time and reduced engagement in structured physical activity (Karo-Karo et al., 2024).

Adolescents represent one of the most active demographic groups in digital environments, particularly on social media platforms such as Instagram and TikTok, which emphasize visual representation and peer interaction (Barry et al., 2023). Social media has evolved beyond a communication tool into a central arena for identity construction, social validation, and trend dissemination among youth (Kross et al., 2021). Within this digital ecosystem, adolescents are continuously exposed to curated portrayals of others' achievements, lifestyles, and social experiences, which may shape behavioral norms and expectations (Reer et al., 2023). Such exposure may intensify social comparison processes and increase vulnerability to psychosocial phenomena such as Fear of Missing Out (FOMO) (Przybylski et al., 2013).

Fear of Missing Out (FOMO) is defined as a pervasive apprehension that others might be having rewarding experiences from which one is absent, accompanied by a desire to remain continually connected with what others are doing (Przybylski et al., 2013). FOMO has been associated with higher levels of social media engagement, increased emotional discomfort when disconnected, and heightened sensitivity to peer activity (Franchina et al., 2018). Among adolescents, who are in a developmental stage characterized by identity exploration and a strong need for peer acceptance, FOMO may exert a particularly significant influence on behavioral decisions (Arnett, 2018).

Recent studies indicate that FOMO is not limited to digital consumption behaviors but may also influence offline activities, including health-related behaviors such as exercise participation (Barry et al., 2023). Exposure to fitness-related content, online challenges, and peer-shared physical activity experiences may function as social triggers that encourage adolescents to engage in similar behaviors (Xiao et al., 2025). In this context, jogging has emerged as a popular and accessible physical activity frequently portrayed in social media trends, community events, and influencer-generated content (Sandira et al., 2025).

Jogging is a moderate-intensity aerobic activity known to improve cardiovascular endurance, regulate body weight, and enhance psychological well-being (Bauman et al., 2012). Regular physical activity during adolescence is associated with reduced risk of obesity, improved mood regulation, and better long-term health trajectories (World Health Organization, 2022). However, participation in jogging among adolescents may not always be driven by intrinsic health motivation, as digital trends and peer influence can shape the intention to engage in such activities (Adam et al., 2025).

When jogging becomes embedded within viral challenges or widely shared social experiences, adolescents may participate primarily to avoid feeling excluded rather than to pursue sustained health goals (Lubis & Anggraini, 2023). In such cases, FOMO may serve as a cue to action that initiates participation but does not necessarily guarantee behavioral consistency (Hasanuddin et al., 2024). This dynamic suggests that FOMO may have a dual role in public health: it can promote initial engagement in physical activity while simultaneously risking superficial or episodic participation (Tafdila, 2024).

The Health Belief Model (HBM) provides a theoretical framework to explain how psychological perceptions influence health behaviors (Champion & Skinner, 2021). According to HBM, individuals are more likely to engage in preventive health behaviors when they perceive susceptibility to health risks, recognize the severity of potential consequences, believe in the benefits of action, perceive minimal barriers, and possess sufficient self-efficacy (Rosenstock et al., 1988). Within this framework, social or environmental stimuli may function as cues to action that trigger behavioral decisions (Champion & Skinner, 2021).

In the context of digital adolescence, FOMO may operate as a social cue to action that stimulates jogging behavior when such activity is perceived as socially rewarding and health-enhancing (Przybylski et al., 2013). However, the sustainability of jogging behavior may depend on whether adolescents internalize health-related benefits beyond the immediate desire for social inclusion (Zhang et al., 2024). If jogging is primarily motivated by social validation, the behavior may decline once the perceived social relevance diminishes (Gomez & Richter, 2023).

In Metro City, Lampung Province, adolescents are increasingly exposed to digital trends and community-based running events, reflecting broader national patterns of youth engagement in fitness-related activities (Karo-Karo et al., 2024). Despite growing participation in jogging events and social media-based fitness campaigns, there remains limited empirical evidence examining the psychological determinants underlying adolescent jogging behavior in this regional context (Tyas & Jannah, 2024). Specifically, no prior study has comprehensively analyzed the influence of FOMO on healthy jogging behavior among adolescents in Metro City using a behavioral health framework.

Understanding this relationship is essential for designing digital-based health promotion strategies that align with adolescents' social realities while fostering sustainable physical activity habits (Glanz et al., 2020). By integrating FOMO within the Health Belief Model framework, this study seeks to examine whether FOMO functions merely as a transient social trigger or as a factor associated with measurable patterns of jogging behavior among adolescents in Metro City. Therefore, this study aims to analyze the influence of Fear of Missing Out (FOMO) on healthy jogging behavior among adolescents in Metro City in 2025 within the perspective of the Health Belief Model (HBM).

METHOD

This study employed a quantitative analytic approach with a cross-sectional design to examine the influence of Fear of Missing Out (FOMO) on healthy jogging behavior among adolescents in Metro City in 2025 (Sugiyono, 2021). A cross-sectional design was selected because it allows the assessment of relationships between variables at a single point in time without manipulating the study conditions (Sugiyono, 2019).

The study population consisted of adolescents aged 15–24 years residing in Metro City, Lampung Province, with an estimated population of 23,500 individuals based on regional demographic data (BPS Metro City, 2024). This age group was selected because adolescents are highly active social media users and are particularly vulnerable to digital social influences such as FOMO (Arnett, 2018). The sample size was determined using the Yamane formula with a 10% margin of error, resulting in a minimum sample of 100 respondents (Yamane, 1973).

Participants were selected using purposive sampling based on predefined inclusion and exclusion criteria. Inclusion criteria included adolescents aged 15–24 years who resided in Metro City, actively used at least two social media platforms, had engaged in jogging within the last three months, and provided informed consent to participate. Exclusion criteria included adolescents with medical conditions limiting physical activity and incomplete questionnaire responses.

Data were collected between November 2025 and January 2026 through structured questionnaires distributed both offline and online to maximize participant reach. Offline data collection was conducted at Taman Merdeka Metro, a commonly used public jogging area, while online data were collected using a Google Form distributed through social media networks. The questionnaire consisted of two primary instruments: the Fear of Missing Out Scale (FOMOS) adapted from Przybylski et al. (2013) and a healthy jogging behavior questionnaire developed based on indicators of frequency, duration, motivation, and consistency of physical activity (Bauman et al., 2012).

The FOMO instrument comprised 12 items measured using a 4-point Likert scale ranging from strongly disagree (1) to strongly agree (4), assessing dimensions of social anxiety, social pressure, emotional discomfort, and desire for social approval (Przybylski et al., 2013). The jogging behavior instrument also consisted of 12 items measuring weekly frequency, session duration, external motivation related to digital trends, intrinsic motivation, and participation in jogging communities. Instrument validity was assessed using Corrected Item-Total Correlation with a significance level of 0.05, and all items demonstrated correlation coefficients above the critical r -value (0.197), indicating acceptable construct validity (Azwar, 2017). Reliability testing was conducted using Cronbach's Alpha, with values of 0.794 for the FOMO scale and 0.792 for the jogging behavior scale, indicating good internal consistency (Nunnally & Bernstein, 1994).

Data analysis was performed using Statistical Product and Service Solutions (SPSS) version 31.0. Descriptive statistics were used to summarize respondent characteristics and variable distributions through frequency, percentage, mean, and standard deviation analysis (Sugiyono, 2019). Pearson correlation analysis was used to assess the relationship between total FOMO scores and total jogging behavior scores because both variables were measured on interval scales. Spearman rank correlation was used to analyze relationships involving ordinal variables such as weekly jogging

frequency and duration of social media use. Statistical significance was determined at $p < 0.05$. Ethical approval for this study was obtained from the Research Ethics Committee of the Faculty of Health, Mitra Indonesia University. The research adhered to ethical principles including respect for persons, beneficence, non-maleficence, justice, and confidentiality to ensure participant rights and data protection throughout the research process (Glanz et al., 2020).

RESULT

A total of 100 adolescents aged 15-24 years participated in this study. The majority of respondents were aged 18-20 years (61%), followed by 15-17 years (23%) and 21-24 years (16%). Female participants accounted for 51% of the sample, while males represented 49%. Most respondents were senior high school students (59%) and university students (35%), indicating that the sample was predominantly composed of adolescents within formal educational settings. Regarding digital behavior, most respondents reported using social media for 2-4 hours per day (42%), followed by 4-6 hours per day (29%). Instagram (42%) and TikTok (31%) were the most frequently used platforms. In terms of physical activity patterns, 29% of respondents reported jogging 1-2 times per week, 27% reported jogging 3-4 times per week, while 24% reported never engaging in jogging activities.

Descriptive Analysis of FOMO and Healthy Jogging Behavior

The total FOMO score ranged from 13 to 47, with a mean of 31.08 (SD = 8.35), indicating a moderate level of Fear of Missing Out among respondents. The total healthy jogging behavior score ranged from 12 to 45, with a mean of 30.13 (SD = 7.52), also reflecting a moderate behavioral tendency. When categorized into three levels (low, moderate, high), 50% of respondents were classified as having moderate FOMO, 26% high FOMO, and 24% low FOMO. Similarly, 55% of respondents demonstrated moderate jogging behavior, 22% high behavior, and 23% low behavior. These findings suggest that both psychosocial pressure and physical activity engagement were generally positioned at intermediate levels within the study population.

Table 1.

Descriptive Statistics of FOMO and Healthy Jogging Behavior (n = 100)

Variable	Minimum	Maximum	Mean	SD
FOMO Score	13	47	31,08	8,35
Healthy Jogging Behavior	12	45	30,13	7,52

Correlation Between FOMO and Healthy Jogging Behavior

Pearson correlation analysis revealed a significant positive relationship between total FOMO scores and healthy jogging behavior scores ($r = 0.252$; $p = 0.012$). This result indicates that higher levels of FOMO were associated with increased healthy jogging behavior among adolescents. However, the correlation strength was classified as weak, suggesting that FOMO contributes to jogging behavior but does not serve as the sole determinant. Spearman correlation analysis further demonstrated a significant positive association between FOMO and weekly jogging frequency ($\rho = 0.205$; $p = 0.041$). Although statistically significant, the relationship was also weak, indicating that FOMO may act as a social trigger rather than a strong predictor of jogging consistency.

Additionally, duration of social media use was positively associated with FOMO ($\rho = 0.215$; $p = 0.031$), suggesting that increased exposure to digital environments corresponds with heightened fear of missing out. Notably, social media duration showed a strong positive correlation with healthy jogging behavior ($\rho = 0.605$; $p < 0.001$), indicating that adolescents with higher digital engagement were more likely to participate in jogging activities. These findings collectively suggest that digital exposure may function as both a psychological amplifier of FOMO and a behavioral catalyst for physical activity participation.

Table 2.
Correlation Analysis Between FOMO, Social Media Use, and Healthy Jogging Behavior
(n = 100)

Variables	Test Used	Correlation Coefficient	p-value	Interpretation
FOMO - Healthy Jogging Behavior	Pearson	$r = 0.252$	0.012	Weak, positive, significant
FOMO - Weekly Jogging Frequency	Spearman	$\rho = 0.205$	0.041	Weak, positive, significant
Social Media Duration - FOMO	Spearman	$\rho = 0.215$	0.031	Weak, positive, significant
Social Media Duration - Healthy Jogging Behavior	Spearman	$\rho = 0.605$	<0.001	Strong, positive, significant

DISCUSSION

This study examined the influence of Fear of Missing Out (FOMO) on healthy jogging behavior among adolescents in Metro City within the framework of the Health Belief Model (HBM), and the findings revealed a significant positive relationship between FOMO and jogging behavior, although the strength of the association was weak. The results indicate that adolescents with higher levels of FOMO tend to report higher engagement in jogging activities, suggesting that psychosocial digital factors may contribute to physical activity participation (Barry et al., 2023).

The positive association between FOMO and healthy jogging behavior supports the conceptualization of FOMO as a social cue to action that can initiate health-related behaviors when those behaviors are socially visible and valued (Champion & Skinner, 2021). Within the Health Belief Model, cues to action function as external or internal stimuli that trigger behavioral decisions when individuals perceive sufficient benefits and manageable barriers (Rosenstock et al., 1988). In the context of this study, exposure to jogging-related content and peer participation through social media may have acted as environmental cues encouraging adolescents to engage in jogging (Xiao et al., 2025).

However, the relatively weak correlation coefficient suggests that FOMO is not a dominant determinant of jogging behavior but rather one of several contributing factors (Funder & Ozer, 2019). Adolescent physical activity is known to be influenced by multiple determinants, including access to facilities, peer support, time availability, and intrinsic motivation (Bauman et al., 2012). Therefore, while FOMO may stimulate initial participation, sustained jogging behavior likely depends on additional cognitive and environmental components beyond digital social pressure (Zhang et al., 2024).

The significant association between FOMO and weekly jogging frequency further indicates that adolescents experiencing higher social connectivity concerns may be more inclined to participate in jogging more often, albeit modestly (Barry et al., 2023). This finding aligns with prior studies suggesting that social media exposure and perceived peer involvement in exercise can increase adolescents' likelihood of engaging in physical activity (Reer et al., 2023). Nevertheless, the weak magnitude of the correlation implies that FOMO may encourage participation episodically rather than establish long-term routine behavior (Gomez & Richter, 2023).

One of the most notable findings of this study is the strong positive correlation between duration of social media use and healthy jogging behavior ($\rho = 0.605$; $p < 0.001$). This result challenges traditional assumptions that increased screen time necessarily correlates with lower physical activity levels (World Health Organization, 2022). Instead, the findings suggest that in certain contexts, social media may serve as a facilitator of physical activity by disseminating health-related content, promoting community engagement, and reinforcing behavioral norms around active lifestyles (López-Carril et al., 2025).

The positive relationship between social media duration and FOMO observed in this study is consistent with theoretical and empirical evidence indicating that prolonged exposure to curated social content intensifies fear of missing rewarding experiences (Franchina et al., 2018). Adolescents who spend more time online are more frequently exposed to peer updates, fitness challenges, and lifestyle portrayals that may heighten perceived social comparison and urgency to participate (Kross et al., 2021). This bidirectional reinforcement between digital engagement and FOMO has been highlighted in longitudinal research demonstrating that FOMO both predicts and is predicted by increased social media use (Groenestein et al., 2025).

From a public health perspective, the dual role of FOMO deserves careful interpretation. On one hand, FOMO may act as a positive motivational trigger that increases initial participation in jogging activities (Przybylski et al., 2013). On the other hand, excessive reliance on external social validation may undermine intrinsic motivation and sustainability of health behaviors (Deci & Ryan, 2000). When jogging participation is primarily driven by social conformity rather than personal health awareness, the behavior may decline once the perceived social trend diminishes (Adam et al., 2025).

Within the Health Belief Model framework, sustained jogging behavior requires more than cues to action; it requires strong perceived benefits, low perceived barriers, and high self-efficacy (Champion & Skinner, 2021). Adolescents who internalize the health benefits of jogging, such as improved cardiovascular fitness and stress reduction, are more likely to maintain consistent behavior beyond temporary digital trends (World Health Organization, 2022). Therefore, while digital cues may initiate behavior, long-term sustainability depends on cognitive appraisal and personal health valuation (Glanz et al., 2020).

The findings of this study contribute to the growing literature on digital psychosocial determinants of adolescent health behavior by demonstrating that FOMO does not solely produce negative outcomes but may also be associated with adaptive behaviors such as physical activity participation (Barry et al., 2023). This aligns with emerging perspectives that digital engagement should not be viewed exclusively as a risk factor but rather as a contextual influence whose impact depends on content, interpretation, and integration into daily routines (Aschwanden & Messner, 2024).

Nevertheless, several limitations must be acknowledged. The cross-sectional design limits causal inference, as the directionality between FOMO, social media use, and jogging behavior cannot be conclusively established (Sugiyono, 2021). Self-reported measures may also introduce recall bias or social desirability bias, potentially inflating associations between socially valued behaviors and digital engagement (Nunnally & Bernstein, 1994). Future studies employing longitudinal or experimental designs are recommended to clarify causal pathways and examine mediating variables such as self-efficacy and intrinsic motivation (Zhang et al., 2024).

Overall, the findings suggest that FOMO and digital engagement function as psychosocial catalysts rather than sole determinants of adolescent jogging behavior. When strategically harnessed, digital social dynamics may be integrated into health promotion interventions aimed at fostering sustainable physical activity among adolescents (Glanz et al., 2020).

CONCLUSION

This study demonstrates that Fear of Missing Out (FOMO) has a significant positive relationship with healthy jogging behavior among adolescents in Metro City, although the strength of the association is weak. The findings indicate that FOMO may function as a digital social cue that encourages adolescents to participate in jogging activities, particularly when such activities are visible and socially valued within online environments. The strong association between duration of social media use and jogging behavior further suggests that digital engagement does not always discourage physical activity, but may instead serve as a behavioral facilitator depending on the nature of content exposure and peer interaction. Within the perspective of the Health Belief Model,

FOMO can be interpreted as a cue to action that initiates behavior; however, sustainable jogging practices require stronger perceived benefits, reduced barriers, and enhanced self-efficacy.

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