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Correlation Between Fear of Missing Out (FoMO) and Physical Activity Levels Among Adolescents

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ABSTRACT

The Fear of Missing Out (FoMO) phenomenon has emerged as an increasingly prominent psychosocial issue among the digital generation of adolescents. Although FoMO is frequently associated with heightened social participation, its impact on physical activity remains understudied, particularly within the context of sports communities. This study aimed to examine the relationship between FoMO levels and physical activity levels among adolescents who are members of sports communities in Bandung City. A quantitative approach with a correlational design was employed. A total of 62 adolescents aged 13–21 years were selected through purposive sampling. The instruments used comprised the FoMO Scale and the Global Physical Activity Questionnaire (GPAQ). Data were analyzed using Spearman's rank correlation test, as one of the variables violated the normality assumption. Results indicated no significant relationship between FoMO and adolescents' physical activity levels ($r = -0.075$; $p = 0.562$). This finding suggests that digital social pressures such as FoMO are not sufficiently powerful to motivate active physical behavior. Accordingly, strategies to enhance adolescents' physical activity should prioritize the reinforcement of intrinsic motivation and the creation of supportive environments that foster sustained physical engagement, rather than relying solely on the influence of digital social trends.

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INTRODUCTION

In the current digital era, societal lifestyles have undergone substantial transformation. Technological advancements and the pervasive use of social media have profoundly influenced patterns of physical activity, particularly among adolescents, as time previously devoted to physical movement has increasingly been replaced by prolonged sedentary behavior involving screen-based learning, gaming, and online socialization. This shift has contributed to the rise of sedentary lifestyles, which have become a significant global public health concern.

Physical activity plays a critical role in maintaining the physical and mental health of adolescents, including supporting healthy body weight, reducing anxiety, and improving sleep quality and academic concentration. However, available evidence indicates that a large proportion of adolescents fail to meet recommended activity levels; the World Health Organization (WHO) reported in 2020 that more than 80% of adolescents worldwide do not achieve the minimum recommendation of 60 minutes of daily physical activity (World Health Organization, 2020). In Indonesia, the 2022 Indonesia Report Card on Physical Activity and national physical fitness assessments revealed that only a small proportion of children and adolescents were classified as active or in good physical condition, with the majority categorized as insufficiently active, thereby increasing their risk of obesity, stress, and metabolic disorders (Aubert et al., 2022).

Against the backdrop of increasing sedentary behavior, digital culture and social media have given rise to a distinct psychosocial phenomenon that may influence adolescents' motivation to engage in physical activity: Fear of Missing Out (FoMO). FoMO is defined as a pervasive apprehension that others may be having rewarding experiences from which one is absent, driving individuals to maintain constant awareness of others' activities to avoid feelings of social exclusion (Przybylski et al., 2013). In the context of adolescents, FoMO is often triggered by social media posts depicting active lifestyles, such as participating in fun runs, joining gym communities, cycling groups, or outdoor recreational activities, prompting the question of whether FoMO genuinely motivates adolescents to become more physically active or merely produces short-lived impulses that do not translate into sustained behavioral change.

The existing literature has predominantly linked FoMO with social media use intensity, psychological stress, and various mental health outcomes (Alt, 2015; Beyens et al., 2016; Balakrishnan et al., 2021). Studies that specifically investigate the relationship between FoMO and physical activity remain limited, especially among adolescents in sports communities, although several studies have indicated associations between FoMO, smartphone dependency, and reduced physical activity (Gu et al., 2022; Dam et al., 2023; Balqis & Yusainy, 2021). Physical activity is inherently tied to the fulfillment of basic psychological needs, including competence, autonomy, and relatedness (Ryan et al., 2009; Deci & Ryan, 1985), such that deficits in physical activity may drive adolescents to seek compensatory engagement through intensive social media use.

Furthermore, individual-level factors such as self-control are hypothesized to moderate whether social anxiety rooted in FoMO translates into adaptive physical behavior or instead reinforces sedentary patterns (Tangney et al., 2004; Hagger & Hamilton, 2019; Yusainy, 2017). Individuals with high self-control tend to manage immediate impulses more effectively and remain oriented toward long-term behavioral goals, including maintaining healthy physical activity habits, suggesting that FoMO may not uniformly produce negative behavioral outcomes.

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Given this background, the present study sought to examine the relationship between FoMO levels and physical activity levels among adolescents who are members of sports communities in Bandung City. The focus on sports community members offers a distinctive perspective compared to general social media user samples, as these adolescents inherently possess greater access to structured physical activity opportunities (Tyas et al., 2022). This study is therefore expected to contribute empirical insights into the psychosocial dynamics of physical activity among adolescents in the digital age, within the context of an expanding sports community culture, while addressing the paucity of studies linking FoMO and physical activity in this population.

METHODS

This study employed a quantitative approach with a correlational design, aiming to objectively measure the relationship between two variables using numerical data and statistical analysis. The correlational design was adopted to determine whether a significant relationship exists between Fear of Missing Out (FoMO) levels and physical activity levels among adolescents who are members of sports communities.

Participants

The study participants were adolescents aged 13-21 years who were members of sports communities in Bandung City, encompassing both formal (club-based) and informal communities.

Sampling Procedures

Purposive sampling was employed with the following inclusion criteria: (1) aged 13-21 years, (2) actively participating in sports community activities for a minimum of three consecutive months, and (3) willing to provide informed consent and complete the questionnaire in full. Exclusion criteria comprised respondents with incomplete questionnaire data or those who reported conditions that significantly limited their physical activity.

Materials and Apparatus

The first instrument was the Fear of Missing Out Scale developed by Przybylski et al. (2013), consisting of 10 items rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale has demonstrated strong construct validity and reliability, with a Cronbach's alpha of 0.87. It was adapted and applied within the Indonesian cultural context by Tyas (2024) in a sample of 237 Generation Z respondents, confirming its relevance for measuring FoMO among social media-using adolescents. A representative item reads: "I feel anxious when I miss the chance to join activities that my friends are participating in."

The second instrument was the Global Physical Activity Questionnaire (GPAQ), developed by the WHO to assess physical activity levels in MET-minutes per week across three domains: work-related activity, transportation-related activity, and recreational activity. The GPAQ has been extensively validated across diverse national contexts and is recognized as a reliable measure of physical activity in both adult and adolescent populations. Total weekly MET scores served as the primary quantitative outcome variable in this study.

Procedures

Data collection was conducted online during June 2025 via a Google Form containing the informed consent form and both research instruments, distributed to adolescent members of sports communities in Bandung City. Participants completed the questionnaire independently (estimated duration: 10–15 minutes). Completeness of responses was subsequently verified, and only participants meeting the inclusion criteria were included in the final analysis.

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Data Analysis

Data were analyzed using SPSS version 26. Normality was assessed using the Kolmogorov–Smirnov test, which indicated that FoMO scores followed a normal distribution ($p = 0.200$), while physical activity data did not ($p = 0.000$). Consequently, Spearman's rho non-parametric correlation test was employed to examine the relationship between variables, with statistical significance set at $p < 0.05$.

RESULTS

This study aimed to determine the relationship between Fear of Missing Out (FoMO) and physical activity levels among adolescents in sports communities. Data were collected from 62 adolescent respondents aged 13–21 years who were members of sports communities in Bandung City, using the Fear of Missing Out Scale and the Global Physical Activity Questionnaire (GPAQ).

Table 1. Descriptive Statistics of FoMO Scores and Physical Activity Levels

Variable	N	Mean	Std. Deviation	Min	Max
FoMO	62	26.61	5.678	14	39
Physical Activity (MET-min/week)	62	11,594.84	10,574.368	720	47,040

Table 1 shows that the mean FoMO score was 26.61 out of a maximum possible score of 50 (SD = 5.678), indicating a moderate level of FoMO among respondents. The mean physical activity level, measured in MET-minutes per week, was 11,594.84 (SD = 10,574.368). According to WHO guidelines, physical activity levels are classified as low (<600 MET-min/week), moderate (600–3,000 MET-min/week), and high (>3,000 MET-min/week) (WHO, 2010). The mean physical activity score of respondents therefore falls within the high category. Prior to conducting the correlation analysis, a normality test was administered to determine the appropriate analytical approach.

Table 2. Normality Test Results (Kolmogorov–Smirnov)

Variable	Kolmogorov–Smirnov (Sig.)	Shapiro–Wilk (Sig.)
Fear of Missing Out (FoMO) Score	0.200	0.274
Physical Activity (MET-min/week – GPAQ)	0.000	0.000

As shown in Table 2, FoMO scores were normally distributed ($p = 0.200$), whereas physical activity data deviated significantly from normality ($p = 0.000$). Therefore, the non-parametric Spearman's rho correlation test was applied to assess the relationship between variables.

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Table 3. Spearman's Correlation Between FoMO and Physical Activity

Variable	N	Correlation Coefficient	Sig. (2-tailed)
FoMO Score × Physical Activity (GPAQ)	62	–0.075	0.562

The correlation analysis yielded a Spearman's rho coefficient of -0.075 and a significance value of 0.562, indicating the absence of a statistically significant relationship between FoMO levels and physical activity among adolescents in sports communities. The negative direction of the coefficient reflects an inverse association; however, the magnitude is negligible and statistically non-significant. In correlational analysis, a p-value ≥ 0.05 denotes the absence of statistical significance (Ghozali, 2016; Field, 2013), while a coefficient approaching zero, such as -0.075, indicates a very weak or practically absent association (Sugiyono, 2019).

These findings demonstrate that FoMO does not significantly predict or correlate with physical activity levels in this population. A Spearman's rho of -0.075 (p = 0.562) confirms that the tendency of adolescents to experience fear of missing out does not substantially influence their engagement in physical activity.

DISCUSSION

Theoretically, FoMO is rooted in fundamental psychosocial needs for social connectedness and inclusion (Przybylski et al., 2013). However, the present results affirm that the link between such psychosocial pressures and actual physical behavior is complex and non-direct. FoMO tends to manifest primarily through digital engagement, such as monitoring peers' activity-related posts on social media (Beyens et al., 2016), without necessarily translating into real-world physical action.

Dadiotis and Roussos (2024) demonstrated that FoMO is positively associated with intensive social media use and online validation-seeking, yet does not directly influence physical engagement. A meta-analysis by Gu et al. (2022) identified a moderate negative correlation (r = -0.243) between smartphone addiction, closely related to FoMO, and physical activity. Similarly, Dam et al. (2023) found that FoMO and social media intensity among adolescents more substantially impair psychological well-being than they promote physical engagement.

The weak correlation observed in this study can be explained through two interrelated factors:

Psychological Factors

From the perspective of Self-Determination Theory (Ryan & Deci, 2000), FoMO constitutes a form of extrinsic motivation that is inherently unstable and superficial. Low self-efficacy, or inadequate confidence in one's ability to engage in physical activity, may act as a barrier to active behavior, even when social motivational pressure is high.

Environmental Factors

Beyond psychological determinants, environmental factors such as the availability of sports facilities, social support from family members and peers, and academic workload may serve as more dominant predictors of adolescents' physical activity levels. Bauman et al. (2012) found that supportive physical environments, including access to sports facilities and

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public recreational spaces, are positively associated with adolescents' physical activity. Parental and peer social support has similarly been identified as a significant determinant of physical activity engagement (Edwardson et al., 2017). Conversely, substantial academic pressure reduces adolescents' available time and energy for physical activity; Sallis et al. (2016) identified heavy academic workloads as a primary barrier to physical activity participation among students. These findings collectively underscore that external environmental factors substantially influence adolescents' physical activity levels, independent of psychosocial motivators such as FoMO. The absence of a significant relationship between FoMO and physical activity in the present study therefore reflects the need for holistic, multi-level intervention approaches.

Given that no significant relationship was found between FoMO and physical activity, the primary hypothesis of this study cannot be supported. This indicates that social media-based strategies relying on social trends alone are insufficient to promote adolescent fitness. Intervention efforts should instead be redirected toward strengthening personal values, internal motivation, and the creation of environments conducive to sustained physical engagement. These findings carry practical implications for the development of more targeted physical activity promotion strategies that account for the diversity of adolescents' motivational profiles and social contexts. Future research is recommended to examine additional variables such as self-efficacy, sport interest, and the role of role models within sports communities, to broaden understanding of the determinants of adolescents' physical activity levels.

CONCLUSION

This study concludes that Fear of Missing Out (FoMO) is not significantly associated with physical activity levels among adolescents who are members of sports communities in Bandung City. This finding affirms that digital social pressures such as FoMO do not constitute primary determinants of active physical behavior in adolescents. Accordingly, efforts to enhance physical activity levels should prioritize the reinforcement of intrinsic motivation and self-efficacy, along with the provision of social and environmental support that fosters sustained physical engagement.

Future research should investigate the roles of additional psychological variables such as sport interest, trait self-control, and the influence of role models, and should employ longitudinal or experimental designs to elucidate the causal mechanisms linking psychosocial factors with adolescents' physical activity. The scope of investigation should also be extended to diverse community types and geographic settings to yield a more comprehensive understanding of the influence of FoMO and related factors on adolescents' physical activity.

AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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