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IMPACT OF ACADEMIC-RELATED PEER INFLUENCE AND FEAR OF MISSING OUT FROM SOCIAL MEDIA ON ACADEMIC ACTIVITIES OF ADOLESCENTS

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ABSTRACT

Aim/Purpose	The main objective of this study is to explore the relationships among social media experience processes, peer influence, and fear of missing out (FoMO), as well as their impact on adolescent students' choice of participation in academic activities.
Background	The increasing digitization of the world has consolidated social media as a dominant means of communication in the modern era. Adolescents are heavily engaged with smartphones and social platforms, resulting in substantial exposure to their influences. This exposure leads to a rise in sharing academic achievements and experiences on social media platforms. This trend has transformed academic success into a symbol of admiration, affecting how young individuals perceive their educational activities. During adolescence, a phase characterized by heightened vulnerability and intense social connections, young people become more susceptible to phenomena such as peer influence and FoMO. Social media, serving as a platform to showcase experiences and achievements, plays a pivotal role in shaping peer norms that subsequently impact peer influence and

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FoMO. Given the significant interplay between social media, peer influence, and FoMO, there is a need to explore whether social media experiences can predict academic-related peer influence and FoMO, as well as understand their interrelationships. This exploration is essential for understanding the cumulative impact of these factors on students' academic pursuits. These insights hold the potential to guide the effective management of the potentially excessive effects of social media, thus promoting a more balanced and productive student life when confronting contemporary challenges.

Methodology	The study employed a quantitative approach, using 5-point Likert scales to collect data via an online survey. The questionnaire was designed based on the theoretical framework regarding transformations of peer experiences in social media contexts developed by Nesi and co-researchers, which mainly interpreted the characterization of social media and how its features could amplify or alter the formation of Peer Influence and FoMO. The data from 419 valid responses from secondary and high school students in Vietnam were analyzed using reliability tests, factor analysis methods, and structural equation modeling (SEM) methods.
Contribution	This research is meaningful in raising awareness of researchers, students, teachers, and parents about the vigorous impacts of social media on students' academic activities and serves as the foundation for further research on regulation methods to secure healthy social media use and academic development.
Findings	It was found that social media was characterized by two latent variables: Online Peer Norms and Novel Peer Experiences. The results showed that both factors were strong predictors of peer influence, while for FoMO, only the variable of Online Peer Norms was a significant predictor. FoMO was found to mediate the impact of social media experience on peer influence. Finally, peer influence relatively affected students' participation in academic activities, while FoMO did not.
Recommendations for Practitioners	The results suggested that social media can be a means to encourage positive academic participation and, thus, can be utilized in spreading educational programs and promoting academic motivation. At the same time, measures to counteract academic pressure should also take social media into consideration.
Recommendations for Researchers	Researchers can utilize the framework of this study to investigate other adolescent media-related mental and behavioral phenomena as well. In addition, researchers should build a clearer understanding of FoMO's interactions with academic matters.
Impact on Society	Social media can either be a great assistance or a huge risk to the development of future generations of society. It is capable of spurring mental and behavioral changes that can radically impact youths' growth on their educational paths.
Future Research	The relationship between peer influence and FoMO should be delved into from more diverse dimensions. Future research should encompass peer influence and social media's involvement in academic self-concepts and well-being.
Keywords	adolescents, social media, peer influence, fear of missing out, academic activity

INTRODUCTION

The world has become increasingly digitalized, and social media has strongly established itself as one of the most influential modes of communication in this modern age. The widespread access to social

platforms has now expanded to encompass even the younger demographic, particularly adolescents, who are highly engaged in frequent smartphone usage and dominate social and communication apps, with the highest use rate found at ages 12 to 17 (Andone et al., 2016). This increased exposure to social media can subject young individuals to its strong influences, as mass activities on these platforms set new trends and popularize new perspectives. This phenomenon has led to an increase in young people's tendency to share their academic experiences and achievements. According to a survey by the Pew Research Center (Anderson et al., 2022), 43% of adolescents posted on social media about their accomplishments, and about 25% posted about their emotional feelings. This new culture has become a source of encouragement for others or an indicator of admiration, making high academic profiles a means to gain popularity on social media as well, and thus can impact youths' perspective about academic activities participation. Additionally, adolescence is a period when one is greatly impressionable and desires much social connection while undergoing drastic physical, cognitive, and psychosocial development (World Health Organization, 2019). Under these circumstances, adolescents become the most vulnerable group to social phenomena such as Peer Influence and Fear of Missing Out (FoMO).

The term "peer" originates from the Latin language, specifically derived from the word "par," which conveys the idea of "equality" (Oxford Learner's Dictionary, n.d.). In contemporary usage, peers do not necessarily have to be of the same age; they can include friends, classmates, colleagues, or even individuals seen on television (Hardcastle, 2012). Peer influence refers to the tendency of individuals to conform to behaviors commonly practiced by their peers, particularly those with popularity, to gain admiration or respect (Dhull & Beniwal, 2017). FoMO is a prevalent social phenomenon, especially in the context of social platforms. It represents the urge to constantly stay updated with the latest trends and information shared by others and the unease associated with the fear of missing out on rewarding experiences (Przybylski et al., 2013). Academic activities are a critical aspect of adolescents' lives and are suspected to have a relationship with the aforementioned phenomena. For the purpose of this research, academic activities are defined as any assignment aimed at determining academic credit, such as examinations, competitions, or projects supported by academic institutions to enhance students' academic advantage and skill development (University of Florida, 2008). The rate of a student's participation in academic activities plays a pivotal role in improving their academic excellence, experience, and skills, thereby bringing them closer to future success.

Previous researchers have laid a strong foundation regarding the mechanisms, predictors, and effects of both peer influence and FoMO. Peer influence has been extensively studied, considering that adolescents naturally seek independence from their parents and desire more interaction with peers. The teenage brain's cognitive reasoning is still in development, leading them to deal with social matters emotionally or instinctively, which makes them particularly susceptible to peer influence (Albert et al., 2013). Peer influence was found to correlate with academic performance (Moldes et al., 2019; Rukundo, 2012; Uche, 2010; Viet & Phuong, 2017), risk behaviors (Fernandez, 2019; Florić et al., 2020; Santor et al., 2000) and even prosocial behaviors (Choukas-Bradley et al., 2015). FoMO, on the other hand, is closely related to the fast-paced nature of cyberspace and humans' social needs and social comparison, making it a widespread issue, especially among teenagers. FoMO has been linked to social media and well-being and has been identified as an independent variable, dependent variable, and mediator in various social media-related processes (Milyavskaya et al., 2018; Perna, 2020; Przybylski et al., 2013).

Social media, peer influence, and FoMO have interconnected effects on the perceptions and behaviors of adolescents. Social media provides a space for teenagers to showcase their experiences, possessions, and achievements, contributing to the formation of various peer norms that, in turn, become sources of peer influence and FoMO. Researchers have identified several aspects considered as peer norms, linked not only to real-life peer influence and FoMO, but also to those related to social media, including risky behaviors such as drug use, smoking, underage sexual activities, and product

consumption. Surprisingly, despite the increasing focus on sharing academic experiences, achievements, study productivity, scholarships, and prizes by popular trends and influencers, the scientific community has not thoroughly explored the correlation between social media and academic-related peer influence and FoMO. Previous studies have mainly examined academic-related peer influence and FoMO in real-life interactions and school environments, indicating their impact on choices like club and sports participation (Rukundo, 2012; Zunic, 2017) or concentration on studies to improve academic performance (Viet & Phuong, 2017). The authors recognized the need to investigate the possible correlation between social media and, specifically, academic-related peer influence and FoMO. Furthermore, they emphasized the importance of understanding the influence of social media-rooted peer influence and FoMO on students' participation in academic activities, which hold crucial meanings in students' academic development and future educational and career paths, necessitating more research attention.

To address these gaps, this study has been conducted by employing a quantitative research approach to analyze the correlations among social media, peer influence, FoMO, and academic activities, using factor analyses and Structural Equation Modeling (SEM). The primary objectives were to determine whether social media experience could predict academic-related peer influence and FoMO, whether FoMO and peer influence had a relationship and could simultaneously impact each other, and whether their joint impacts could affect students' academic activities. This research aims to provide deeper insights into adolescent social behaviors and make contributions to the regulation of excessive social media impacts to construct an effective student life, which is majorly threatened by various pressures and stressors today. Specifically, this research focuses on addressing the following questions:

- 1) How do social media experience processes impact peer influence?
- 2) Is there any relationship between peer influence and academic activities?
- 3) How do social media experience processes impact FoMO?
- 4) Is there any relationship between FoMO and academic activities?
- 5) Does FoMO mediate the impact of social media on peer influence?

LITERATURE REVIEW

PEER INFLUENCE (PI)

Theoretical background

The concept of peer influence has garnered significant attention in research, drawing from various disciplines, such as sociology, psychology, and neuroscience. Researchers have explored the phenomenon through social theories, with one prominent explanation being the Social Comparison Processes introduced by Festinger (1954). The theory consisted of two types of comparisons: downward comparison and upward comparison, with the latter being particularly relevant for understanding peer influence. In the context of peer influence, upward comparison occurs when individuals compare themselves to those who are perceived as superior in some way, either as individuals or as part of a group. This comparison often results in changes in the individuals' self-concept or motivates them to put effort into becoming equivalent to their superior peers. As a consequence of this upward comparison, individuals are more inclined to adopt peer trends and engage in collective behaviors to gain a similar level of social respect and status. A conceptualization model for peer influence was proposed by Brown et al. (2008). They coined the term "behavioral display" to describe the phenomenon of imitating socially desirable individuals as a part of peer influence. Furthermore, the model developed by Brown et al. (2008) offers a comprehensive explanation of the standard process of peer influence. This process takes into account various individual and contextual factors, as well as other potential moderators that can influence the extent and nature of peer influence.

Peer influence impacts

In terms of psychology, peer influence was explored through experiments with risk-taking simulation games conducted by Albert et al. (2013), in which brain activities were closely observed. The research recorded how teenagers' risk-taking tendencies differed when playing with or without peer supervision. They compared the behavior of teens with that of adults in similar situations and discovered a specific neural and hormonal response to peer social support in adolescents. This response, coupled with their level of cognitive development, made it challenging for them to resist peer influence effectively. As a result, adolescents were often subconsciously driven and found it difficult to resist peer influence, making them highly susceptible to it. Both positive and negative aspects of peer influence were examined, but negative matters were more frequently addressed. Negative peer influence, sometimes referred to as peer pressure (Brown et al., 2008), was believed to stem from low self-esteem, communication and familial challenges, and a lack of sense of social belonging (Dhull & Beniwal, 2017). Similar to the concept of upward comparison (Festinger, 1954), peer influence plays a crucial role in shaping one's self-concept (Oyeboade, 2017) and overall well-being. However, when peer influence, or peer pressure, leads adolescents to conform to things they are reluctant to, it potentially harms their well-being (Dhull & Beniwal, 2017). Peer influence has significant impacts on various behaviors, with a particular focus on risk behaviors and academic matters. Negative peer influence and peer conformity are strong predictors of behaviors such as cigarette smoking, unprotected sexual activities, and underage drug consumption (Florić et al., 2020; Santor et al., 2000). In the academic context, peer influence is associated with academic dishonesty (Fernandez, 2019) and declining academic performance (Uche, 2010). On the other hand, positive peer influence is seen to have the opposite effect. Viet and Phuong (2017) suggested that peer influence could improve academic performance as adolescents sought to prove their status. Moldes et al. (2019) identified peers' support in learning as a factor contributing to positive academic outcomes. Rukundo (2012) concluded that peer encouragement led to increased participation in extracurricular activities and more rational subject choices, positively affecting academic performance. Furthermore, an experimental study by Choukas-Bradley et al. (2015) revealed that interactions with high-status peers interested in volunteering could drive a higher tendency to adopt prosocial volunteering activities, even via online messaging.

Peer influence and social media

The prevalence of smartphones and social media applications among adolescents has sparked interest in studying the phenomenon of peer influence in online environments. Choukas-Bradley et al. (2015) conducted a study on how chatting and social interactions through smartphones could influence adolescents' behavior. Adolescents were found to enthusiastically share their achievements, family life, and emotions on social media platforms (Andone et al., 2016). The Pew Research Center reported that adolescents engaged in extensive social media usage, which raised questions about how social media might contribute to peer influence (Anderson et al., 2022). A study by Trang et al. (2021) found that peer pressure appeared during adolescents' exposure to others' academic achievements, outer appearance, and social life on social media. The study also found that adolescents were more likely to be influenced by peers who received significant interactions on social media, such as likes, comments, and shares. Similar conclusions were drawn by Sherman et al. (2016), who observed heightened brain activity in certain areas of teenagers' brains when viewing attractive posts. The most comprehensive and detailed theoretical framework concerning this area of study was developed by Nesi et al. (2018a, 2018b). Their work addressed the concept of "Peer Experience" in the context of social media. The framework adopted an approach based on the perceived characteristics of social media platforms, such as their availability, enabling information to be readily accessible anytime and anywhere. Additionally, it considered the "visualness" of social media, highlighting the significance of visuals depicting people and activities shared online. These characteristics collectively contributed to the formation of "Social Media Experience Processes," which had the potential to enhance peer influence, contribute to peer victimization, or impact an individual's peer status. This framework holds significant relevance and has the potential to serve as a theoretical foundation for a majority of

research on peer influence within the realm of social media. Nonetheless, for the framework to be confidently applied in research, its proposed effects need to undergo rigorous statistical testing to confirm its efficacy and validity.

Recently, social media-related peer influence research has extended to various behaviors and issues. Chung et al. (2021) identified four major factors influencing teenagers' eating habits on social media: visual appeal, content dissemination, socialized digital connections, and adolescent marketer influencers. The presence of peer influence is evident in the fourth factor, which is associated with promoting unhealthy eating habits and eating disorders. Research also found that body image concerns were also linked to social media platforms. Burnette et al. (2017) identified that social media usage exacerbated body dissatisfaction, particularly in girls who engaged in social comparison regarding their appearance. Besides promoting unhealthy behaviors, social media also plays a role in encouraging substance use. The National Center on Addiction and Substance Abuse at Columbia University reported that 75% of teens were influenced to consume alcohol and drugs due to peers' partying photos on social media (Orlando Recovery Center, n.d.). However, despite the abundance of research on various aspects of peer influence on social media, there was a noticeable gap in the study of academic-related peer influence and its effects on academic behaviors. Addressing this gap is crucial, as social media's impact on modern youths' lives is profound and can have both positive and negative effects on various aspects of their behavior and well-being.

FEAR OF MISSING OUT (FoMO)

Theoretical background

Fear of Missing Out (FoMO), similar to peer influence, can be understood through processes of social comparison, particularly upward comparison (Festinger, 1954). In the case of FoMO, upward comparison involves individuals observing others who seem to have more rewarding experiences, thereby creating a sense of urgency not to miss out on similar gratifying opportunities. Another theory that could explain the mechanism behind FoMO is the Self-Motivation theory developed by Ryan and Deci (2000), as discussed by Przybylski et al. (2013). This theory identifies three crucial elements that constitute intrinsic motivation for any activity: *autonomy*, which refers to a sense of independence; *competency*, which relates to a sense of ability; and, most importantly, *relatedness*, which pertains to a sense of social belonging. FoMO is influenced by the intense desire for social belongingness, as supported by Alabri's (2022) research, which revealed a statistically significant correlation between FoMO and the need for social belonging.

FoMO impacts

FoMO has been associated with various real-life consequences, including heightened feelings of loneliness, depression, anxiety, and decreased life satisfaction (Milyavskaya et al., 2018; Perna, 2020; Przybylski et al., 2013; Reer et al., 2019). It was also suggested that FoMO could affect one's sleep quality (Milyavskaya et al., 2018), and it may lead to decreased sleeping hours (Qutishat & Sharour, 2019). Within the academic context, FoMO has been linked to maladaptive behaviors, such as engaging in plagiarism, cheating, and substance abuse (McKee et al., 2020). However, there is also a positive aspect to FoMO, as it was found to be related to the number of clubs students joined (Zunic, 2017). Additionally, FoMO seems to be more pronounced during studying and when students engage in social activities, whether voluntarily or due to obligation (Milyavskaya et al., 2018). Qutishat and Sharour (2019) established a correlation between FoMO and undergraduate students' academic performance.

FoMO and social media

Extensive research has been conducted on the negative impacts associated with social media use and damaging behaviors, with a specific focus on the FoMO phenomenon. FoMO has been studied in

both real-life situations (Almeida et al., 2022; Milyavskaya et al., 2018) and within the context of social media, where it appears to be predominantly linked to cyberspace. It is commonly defined as the fear of not being immediately updated with trending information (Alutaybi et al., 2020), leading to a habit of constantly checking social media. This phenomenon has been identified as a significant factor contributing to social media addiction (Shen et al., 2020), as well as other problematic social media habits like phubbing (Akat et al., 2022) and cyberloafing (Ergin & Karataş, 2022). FoMO is not only a consequence of social media usage; it has also been associated with social media-related issues, such as social appearance anxiety (Ergin & Karataş, 2022) and excessive social media frequency and engagement (Li, 2020; Scheinfeld & Voorhees, 2022). Studies have explored the correlation between social media frequency, FoMO, and the sense of social rejection, revealing a cyclical relationship wherein experiencing FoMO drives greater social media usage, leading to even more FoMO (Perna, 2020). During the COVID-19 lockdown, when social interactions shifted predominantly to social media platforms, FoMO thrived, as highlighted by Scheinfeld and Voorhees (2022). They addressed the negative impact of this phenomenon, where people tended to experience FoMO when witnessing others' posts that violated safety rules, perceiving such acts more favorably. This heightened the intention to emulate the behavior, although it might not necessarily lead to actual actions. Adolescents who spend a substantial amount of time socializing online are believed to be especially susceptible to FoMO effects, which was supported by the finding of Przybylski et al. (2013), indicating that younger people reported higher levels of FoMO.

FoMO, unlike peer influence, is intrinsically connected to social media effects and has been suggested to impact real-life decisions, such as participation in events like concerts, parties, or trips, as well as purchasing choices (van Solt et al., 2018). However, the widely acknowledged aspects of FoMO primarily revolve around seeking new information, trends, material possessions, or recreational experiences. The connection between academic-related FoMO and social media remains somewhat vague and lacks extensive research-based evidence, despite academic achievements and activities being equally relevant when showcasing rewarding and admirable features of individuals, often shared online. While FoMO had long been considered a reason for social media activities that distract adolescents from educational pursuits, the authors were particularly interested in discovering whether media-rooted FoMO could also lead to the reverse effect, motivating students to be more involved in academic activities. As FoMO has been proven to be a powerful social influence capable of altering teenagers' behaviors, this possibility holds promise. Therefore, further research into FoMO is crucial, as the current understanding of this phenomenon remains relatively basic and mainly concentrated on a few spheres, such as social media or risk factors. Exploring FoMO's effects comprehensively is essential to grasp its full impact on individuals and society.

THE RELATIONSHIP BETWEEN FOMO AND PEER INFLUENCE

In a study of peer influence via social media, Nesi et al. (2018b) briefly mentioned FoMO without explicitly clarifying its role in peer processes. However, the researchers noticed that various aspects related to FoMO were interconnected with peer influence, leading to speculation about their coexistence within a common social process, potentially involving social media. FoMO was found to mediate several media-related relationships, including those between extrinsic academic motivation and social media fatigue (Shen et al., 2020), parent-child communication and children's problematic Internet use (Alt & Boniel-Nissim, 2018), social appearance anxiety and cyber-loafing (Ergin & Karataş, 2022), as well as self-efficacy and life satisfaction (Deniz, 2021). Regarding the social media-peer influence relationship, FoMO can play either a moderator or a mediator role. The authors delved into the concepts of moderator and mediator to determine which better suited FoMO. Moderators impact the direction or strength of a relationship, while mediators intervene and help explain the relationship. Magill (2011) also noted that a mediator implied more about the transmission of a relationship, whereas a moderator was more likely a client variable that remained unaffected by either the dependent or independent variables in the main relationship. It seemed unlikely for FoMO to function

as a moderator, given the substantial impact social media could have on FoMO, which was comparable to its impact on Peer Influence. This solidified the authors' belief that FoMO might hypothetically play a mediating role. Understanding whether FoMO acts as a mediator in the social media-peer influence relationship was crucial, as both FoMO and peer influence have significant impacts on adolescents. Acknowledging a possible correlation between these influences is essential for developing prevention strategies that promote healthy development and control in youths' lives. Addressing these intertwined influences can lead to more effective interventions that empower adolescents to navigate social media, FoMO, and peer influence in a positive and balanced manner.

ACADEMIC ACTIVITIES

Academic matters and academic activities have received significant research interest due to their crucial role in adolescents' future development. Academic activities encompass not only regular school classes but also extracurricular pursuits, such as projects, competitions, and clubs. Feldman and Matjasko (2005) conducted a detailed review of the effects of school-based extracurricular activities, highlighting their strongly positive impacts on youths' academic performance and reduced likelihood of dropout and drug use. They emphasized the importance of considering peer effects as possible mediators in understanding the influence of these activities. Furthermore, Schaefer et al. (2011) indicated that active participation in school-based activities not only contributed to academic growth but also played a vital role in maintaining current friendships and fostering new ones. Adolescents' social needs are exceptionally high during this developmental phase, making such friendships crucial for their overall mental well-being. Academic activities have also been linked to social media usage. Luo et al. (2020) classified students' social media activities into two groups: outside-school social media use and inside-school social media use, based on the purpose of accessing social platforms. The former, related to recreational activities, showed a negative correlation, while the latter, indicating access to research and knowledge extension, was positively correlated with better academic performance. Ashraf et al. (2021) analyzed social media's role as an open-learning tool, leading to improvement in students' learning behavior and, consequently, their academic outcomes. They suggested that interaction with peers played a significant role in endorsing open-learning behaviors. However, little attention has been given to the probability of social media increasing students' participation in more academic activities, as well as the potential mediating role of social effects like peer influence or FoMO. Understanding the link between social media and academic activities is essential for leveraging technology in education effectively. Exploring the influence of social media on students' engagement in academic activities and examining the potential mediators involved can lead to the development of strategies that harness these digital platforms to promote academic excellence and positive social experiences among adolescents.

CONCEPTUAL FRAMEWORK

The framework utilized in this study is built upon the transformational framework on the impacts of social media attributes that reshape peer experiences, as suggested by Nesi et al. (2018a, 2018b) (Appendix A). This framework explains all the effects of peer socialization online through four social media experience processes: Amplification of Socialization Effects (ASE, constant exposure to peer effects regardless of time and place), Novel Experiences (NE, gaining new perspectives on peer social desirability), Altered Qualitative Nature of Peer Influence (QNPI, emergence of new online peer norms), and Compensatory Behaviors (CB, the tendency to conform to collective peer behaviors). Nesi et al. (2018a, 2018b), along with other researchers, have associated FoMO effects with social media. Although Nesi et al. (2018a, 2018b) vaguely mentioned FoMO in relation to Peer Influence, the authors of this study have drawn a correlation between the three concepts.

The complete framework and proposed correlations are illustrated in Figure 1. Drawing from a comprehensive literature review and identifying research gaps, the authors have formulated the following hypotheses:

- H1: Social media experience processes have a significant positive impact on peer influence.
- H2: Peer influence has a significant positive impact on academic activities.
- H3: Social media experience processes have a significant positive impact on FoMO.
- H4: FoMO has a significant positive impact on academic activities.
- H5: FoMO mediates the impact of social media on peer influence.

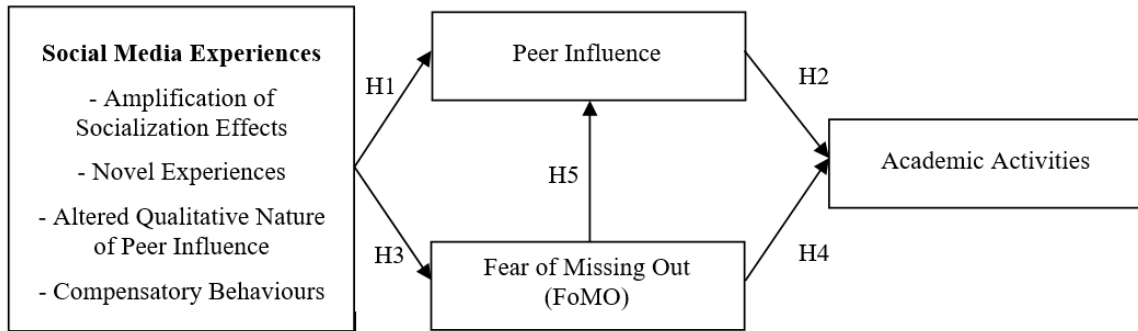


Figure 1. Conceptual framework

METHODOLOGY

RESEARCH INSTRUMENT

In this study, a quantitative research approach was utilized, involving an online survey targeting students aged 11 to 18 years from various high schools and secondary schools in the south of Vietnam.

The questionnaire for the survey was structured into three main sections: information on survey participants' privacy terms and the authors' commitment, a demographic information section, and the main survey questions (Appendix B). In the first section, the questionnaire explicitly stated the rights of identity security and obtained individual consent from each participant to ensure the security and anonymity of respondents. Those who declined to provide consent were excluded from the final dataset. The demographic information section consisted of multiple-choice questions to identify some of the respondents' demographic information. The main survey questions were designed using 5-point Likert scales (ranging from 1 - Totally Disagree to 5 - Totally Agree). These items were developed by integrating concepts from previous research, particularly the Nesi et al. (2018a, 2018b) framework, along with existing scales. The Peer Influence and Academic Activities scales were developed primarily from current research, while the 10-item FoMO scale had been previously developed and rigorously examined by Przybylski et al. (2013) and was widely trusted by FoMO researchers.

Prior to its official dissemination, the survey form and the self-developed scales underwent a thorough quality evaluation process. Initially, it was reviewed by two PhD psychologists and a university lecturer to ensure the relevance of the questions and the overall questionnaire configuration. Subsequently, the survey was administered to 41 respondents from various areas with similar backgrounds and living conditions, as specified in the respondent criteria. Based on the feedback received during this pilot test, necessary adjustments were made to enhance the content's understandability. The reliability of the constructed scales and the overall questionnaire was validated during the pilot test. As a result, 6 items with crossed correlations were removed in order to optimize the questionnaire's design. The finalized questionnaire for the empirical study comprised 31 items corresponding to the 7 constructs (see Appendix C).

DATA COLLECTION AND SAMPLING

In this study, a non-probability sampling method was employed, utilizing an online survey conducted through Google Forms. To ensure individual consent for participation in the study, an agreement section was included in the survey form before initiating the investigation. The survey form was disseminated through social media platforms and messaging applications to collect the data from target participants, which included high school and secondary school students. Specifically, the questionnaire was distributed through two channels: directly to students in four high schools and two secondary schools with approval from school principals, and through social media platforms for other participants. By the end of 2022, a total of 566 responses were collected. However, certain responses were excluded due to missing information or refusal from participants to consent to the analysis of their survey responses. Consequently, the final dataset for statistical analysis comprised 419 valid samples, exceeding the required minimum threshold. Following the guidelines of Jackson (2003), the recommended minimum number of samples should be at least ten times the number of survey items or a minimum of $31 * 10 = 310$ samples.

Table 1 provides a summary of the demographic profile of the final dataset. Overall, the majority of participants were female (58.5%) in terms of gender, and the most represented age group was adolescents aged 14-16 (65.6%). In terms of educational level and type of institution, a significant proportion of participants reported being in high school (87.4%) and attending public schools (66.6%). Notably, a considerable number of students (28.2%, 118 students) reported spending over 4 hours per day using social media.

Table 1. Participants' demographic information

Demographic categories	Frequency	Valid percent (%)
Gender		
Female	245	58.5
Male	156	37.2
Other	18	4.3
Age		
11-13	—	—
14-16	275	65.6
17-18	144	34.4
Educational level		
Secondary school	53	12.6
High school	366	87.4
Type of institution		
Public school	279	66.6
Semi-public school	14	3.3
Private school	111	26.5
International school	8	1.9
Not identified	7	1.7
Average time of Social Media use		
Under 1 hour/day	32	7.6
1-2 hours/day	82	19.6
2-3 hours/day	104	24.8
3-4 hours/day	83	19.8
Over 4 hours/day	118	28.2
Total	419	100.0

DATA ANALYZING METHODS

The research employed Statistical Package for the Social Sciences (SPSS 26.0) and Analysis of Moment Structures (AMOS) software to analyze the collected data. To ensure the reliability or consistency of the items, Cronbach's Alpha was initially applied. Subsequently, Exploratory Factor Analysis (EFA) was additionally utilized to re-discover the model structure to ensure that the factors and relationships hypothesized, according to the theoretical framework, were suitable and internally reliable. This was followed by Confirmatory Factor Analysis (CFA), which verified the constructs included in the framework design for the last time. In the main phase of the statistical analysis, Structural Equation Modeling (SEM), a combination of factor analysis and multiple regression analysis, was employed to examine the relationships between factors proposed by the hypotheses.

To simplify the procedures, the authors coded the items using the initials of the factors and their numerical order in the question section (see Appendix C). Once unsuitable variables were eliminated, the items were renamed accordingly.

RESULTS

CRONBACH'S ALPHA AND EXPLORATORY FACTOR ANALYSIS (EFA)

Initially, Cronbach's alpha was employed to assess the compatibility and reliability of the measuring items associated with the main factors of the scale. The results indicate satisfactory Cronbach's alpha values ($\alpha \geq 0.75$) for all factors, confirming the usability of the measuring scales. Specific Cronbach's alpha values for each group of items or factor of Social Media experience are presented in Table 2, while Table 3 shows the specific Cronbach's alpha values for each group of items or factor of dependent variables, which include Peer Influence, FoMO, and Academic Activities.

Following Cronbach's alpha analysis, Exploratory Factor Analysis (EFA) was conducted to evaluate the suitability of the theorized model further. The analysis aimed to determine if the factors were effectively divided if the measuring variables corresponded to the appropriate factor, and if there might be any new unidentified variables. During the EFA, the measuring items related to the original four independent variables, representing the four attributes of Social Media experience processes according to the theoretical model of Nesi et al. (2018a, 2018b), were reconfigured and merged into two new latent variables (Eigenvalues ≥ 1). The two new factors were named "Online Peer Norms" and "Novel Peer Experiences."

The first variable, Online Peer Norms (OPN), was formed by merging two theorized factors, Compensatory Behaviors (CB) and a portion of the Altered Qualitative Nature of Peer Influence (QNPI). This factor encompasses the existence and development of new trends promoted by high-status peers, which strongly influence adolescents' perspectives and behaviors. The second variable, Novel Peer Experience (NPE), was created by merging three factors: Novel Experience (NE), Amplification of Socialization Effects (ASE), and a portion of the Altered Qualitative Nature of Peer Influence (QNPI). This factor represents the emergence of entirely virtual peer relationships, online communities, and social media features that amplify peer effects.

The suitability for conducting EFA was confirmed by the Kaiser-Meyer-Olkin (KMO) value of 0.898 (> 0.5), the total variance explained (TVE) of 53.334 (> 50), and the significance level (Sig.) of less than 0.001. Moreover, all factor loadings had statistical significance (factor loading > 0.5) (refer Table 2). Throughout this process, using the new dataset of 419 students, the following items were eliminated: NE3 and QNPI3. Table 3 displays the EFA values revealed by the analysis of dependent variables, including FoMO, Peer Influence, and Academic Activities, in which Academic Activities were dependent on the former two constructs. The analysis also met the criteria for conducting EFA with $KMO \geq 0.5$, $Sig. < 0.001$, and substantial values of TVE (> 54). The factor loadings demonstrated excellent statistical significance with values > 0.7 . Eigenvalues indicated that each construct did not

need to be divided, meaning that the items did not require reconfiguration. However, several items were deemed unsuitable and were eliminated, including FOMO1 to FOMO4, AA3, and AA4.

Table 2. EFA and reliability test results (independent variables)

Constructs/factors/variables	Exploratory factor analysis – varimax rotation				Reliability	
	Eigenvalues	Total variance explained	Kaiser-Meyer-Olkin (KMO)	Barlett's test of sphericity (sig.)	Cronbach alpha	Factor loadings
Factor 1: Online Peer Norms	4.269	53.334	0.898	0.000	0.798	
CB1: I join many groups of academically like-minded people on social media.						0.763
CB2: I see things members in those study groups do as the right thing to follow.						0.743
CB3: I think that the online friends I have are just as great friends as those in real life.						0.672
CB4: I get to know and befriend some people because of the influential academic activities and achievements they posted.						0.729
QNPI4: I see academic activities and achievements widespread on the Internet as things most people my age ought to own.						0.601
Factor 2: Novel Peer Experiences	1.064	53.334	0.898	0.000	0.750	
NE1: I see posts on social media about peers' academic activities and achievements receiving many reactions and comments.						0.782
NE2: I conceive of the number of interactions on social media as a sign that the content is supported and loved.						0.642
ASE1: There are many opinions related to studying that belong to my peers and are unknown to me until posted on social media.						0.723
QNPI1: I think academic activities posted on social media by my peers look interesting.						0.558
QNPI2: I think peers express their thoughts on academic matters more openly on social media.						0.533

Table 3. EFA and reliability test results (dependent variables)

Constructs/factors/variables	Exploratory factor analysis – varimax rotation				Reliability	
	Eigenvalues	Total variance explained	Kaiser-Meyer-Olkin (KMO)	Barlett's test of sphericity (sig.)	Cronbach alpha	Factor loadings
Peer Influence						
PI1: I can remember academic-related posts very clearly if those are shared by my peers on social media.	3.287	54.786	0.877	0.000	0.833	0.701
PI2: I intend to follow the study behaviors of peers that I consider admired and adored by others.						0.759
PI3: I believe academic achievements and activities receiving huge rates of interactions and shares are very worthy of following.						0.758
PI4: I feel the need to participate in every academic activity most of my friends join.						0.797
PI5: I feel the need to imitate the study habits of members of social media study groups that I join.						0.744
PI6: I feel pressured if I cannot participate or achieve as much as my other peers.						0.714
Fear of Missing Out (FoMO)						
FOMO5: I consider being able to understand and immerse in conversations my friends have about academic matters, as very important.	2.990	59.800	0.847	0.000	0.832	0.767
FOMO6: Sometimes I wonder if I was taking too much time taking up academic activities similar to everybody else.						0.764
FOMO7: I feel distressed if I miss an opportunity to join an academic activity.						0.792
FOMO8: I feel distressed if I miss an opportunity to join an academic activity with friends.						0.777
FOMO9: When there is an accomplishment or great learning experience, I feel that sharing it on social media is necessary.						0.766
Academic Activities						
AA1: I take part in many clubs.	1.728	86.414	0.500	0.000	0.842	0.930
AA2: I take part in many academic competitions.						0.930

CONFIRMATORY FACTOR ANALYSIS (CFA)

In this study, Confirmatory Factor Analysis (CFA) was utilized to assess the correlations among measuring variables and latent variables, as well as among latent variables themselves. The CFA model was demonstrated using AMOS, and it met the criteria for model fit, as presented in Figure 2. Specifically, the Chi-square/df value was 1.553, which was less than the recommended threshold of 2. The Comparative Fit Index (CFI) was 0.968, and the Tucker-Lewis Index (TLI) was 0.963, both exceeding the desirable value of 0.9. The Root Mean Square Error of Approximation (RMSEA) was 0.036, which was below the acceptable threshold of 0.08. These results indicated that the model fit the data well.

The estimate values of the standardized regression weights ranged from 0.521 to 0.893, all exceeding 0.5, and the associated P-values were less than 0.001. This confirmed the Convergent quality of the model (Gerbing & Anderson, 1988). Furthermore, all Covariances among latent variables in the model were smaller than 1 ($P < 0.001$), indicating a valid Discriminant value (Steenkamp & van Trijp, 1991) as shown in Table 4. The absence of correlations among the errors of the variables and the satisfactory Cronbach's alpha scores ($0.95 > \alpha > 0.7$) (Nunnally & Burnstein, 1994) further enhanced the reliability of the model. Based on these results, the model was deemed suitable for Structural Equation Modeling (SEM) analysis.

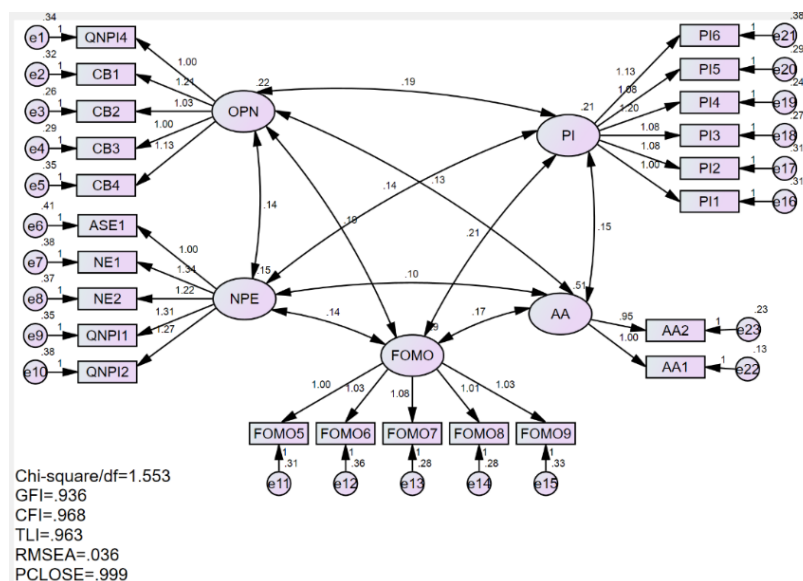


Figure 2. AMOS CFA Model

Table 4. CFA covariances and P-values

			Estimate	SE	CR	P
OPN	↔	NPE	0.144	0.020	7.154	***
OPN	↔	PI	0.188	0.022	8.375	***
NPE	↔	PI	0.145	0.020	7.292	***
NPE	↔	FOMO	0.139	0.020	6.969	***
OPN	↔	FOMO	0.189	0.023	8.185	***
FOMO	↔	PI	0.205	0.024	8.655	***
FOMO	↔	AA	0.174	0.026	6.699	***
PI	↔	AA	0.154	0.023	6.708	***
OPN	↔	AA	0.131	0.023	5.801	***
NPE	↔	AA	0.096	0.020	4.890	***

STRUCTURAL EQUATION MODELING (SEM)

Figure 3 illustrates the Structural Equation Model (SEM) used in this study. The relationships among variables were tested using Estimate values, and the results supported Hypotheses H1, H2, and H5. Specifically, H1 and H5 were accepted with a high level of significance ($P < 0.001$), while H2 was accepted with a lower level of significance ($P < 0.05$). Regarding H3, it was found that FoMO had a significant correlation with the factor of Online Peer Norms belonging to social media ($P < 0.001$). However, the correlation between FoMO and the second factor of social media, Novel Peer Experiences, was not significant ($P = 0.093 > 0.05$). As a result, H3 was partially accepted. On the other hand, H4 was rejected due to a P-value of 0.057, which was greater than the acceptable threshold of 0.05. This showed that the accuracy of the results was lower than 95%, and the hypothesis should not be reliably accepted. Consequently, it was concluded that academic activities were not influenced by media-related FoMO.

In summary, the study found that social media factors had significant impacts on peer influence and some considerable impacts on FoMO. FoMO also played a mediating role in the indirect impact of Online Peer Norms on Peer Influence. However, it was revealed that FoMO did not significantly influence adolescents' choice of academic activities, while peer influence remained a significant factor in affecting those choices.

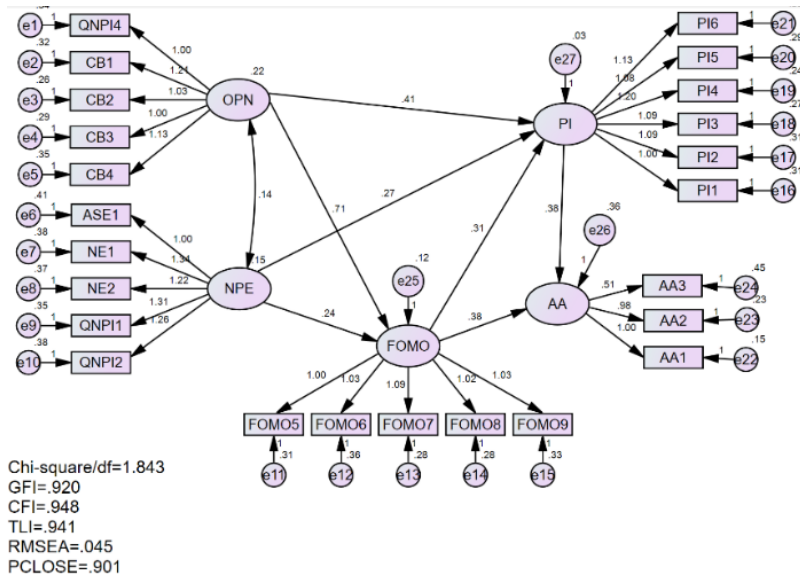


Figure 3. SEM model

Table 5. Regression weights from SEM results

Relationships	Estimate	P	Hypotheses testing	Result
PI ← OPN	0.416	***	H1	Accepted
PI ← NPE	0.275	0.005	H1	Accepted
AA ← PI	0.411	0.030	H2	Accepted
FoMO ← OPN	0.705	***	H3	Accepted
FoMO ← NPE	0.246	0.093	H3	Rejected
AA ← FoMO	0.312	0.057	H4	Rejected
PI ← FoMO	0.308	***	H5	Accepted

The analysis results in Table 6 indicate that Peer Influence (PI) was directly impacted by both Online Peer Norms (OPN) and Novel Peer Experience (NPE). The impact level of OPN was 0.421, indicating that a 1-unit increase in Online Peer Norms led to a 0.421-unit increase in Peer Influence. Similarly, a 1-unit increase in NPE resulted in a 0.233-unit increase in Peer Influence. Moreover, NPE also had an indirect impact on Peer Influence through the mediator FoMO, where a 1-unit increase in FoMO led to a 0.359-unit increase in Peer Influence. Together, OPN, NPE, and FoMO accounted for 86% of the variations in Peer Influence.

For FoMO, Social Media factors, specifically OPN, had a direct and positive impact. The impact level of OPN on FoMO was the greatest at 0.613, signifying that a 1-unit increase in OPN resulted in a 0.613-unit increase in FoMO. However, NPE did not exhibit a significant correlation with FoMO. Overall, Social Media experience explained 57% of the presence and increase of FoMO.

Regarding academic activity participation, it was moderately influenced by peer influence but not by FoMO. A 1-unit increase in Peer Influence led to a 0.263-unit increase in Academic Activities participation. The impact of peer effects on the decision to engage in Academic Activities was approximately 23%.

Table 6. Estimate of standardized regression weights and squared multiple correlations

Factors in standardized regression weights			Estimate	Squared multiple correlations
PI	←	OPN	0.421	PI: 0.855
PI	←	NPE	0.233	
PI	←	FOMO	0.359	
FOMO	←	OPN	0.613	FOMO: 0.582
AA	←	PI	0.263	AA: 0.225

DISCUSSION

The study utilized the transformational framework of Nesi et al. (2018a, 2018b, 2023) to explore relationships among social media, peer influence, FoMO, and academic activities. However, during analysis, the four original factors of social media were merged into two main variables: Online Peer Norms and Novel Peer Experiences. The results indicated the significant role of social media experience processes in enhancing susceptibility to academic-related peer influence and FoMO, addressing Research Questions 1 and 3. Regarding Research Questions 2 and 4, the findings confirmed a positive relationship between peer influence and the tendency to be academically active, but no significant correlation between FoMO and academic activities was observed. The study also identified a link between FoMO and peer influence, indicating FoMO's mediating role in the relationship between social media and peer influence, answering Research Question 5. A detailed explanation of the study's results is provided in the following sections.

The first major finding addressed the research question of how social media experience processes impact peer influence. The research shows that social media experience was a key predictor of online-originated academic-related peer influence. This observation was consistent with existing literature that explores the effects of social media contexts on general peer influence (Nesi et al., 2018a, 2018b; Sherman et al., 2016; Trang et al., 2021). Notably, social media platforms were also found to induce peer influence related to specific behaviors; for example, high-status peers promoted prosocial behaviors through online interactions (Choukas-Bradley et al., 2015). However, this finding introduces a relatively novel perspective, as it not only addressed general peer influence but also delved specifically into academic-related peer influence. The robust influence of peers in real-life academic settings is well-established. Prior research has indicated that teenagers experience substantial social comparison effects (Jansen et al., 2022), strive for academic recognition among their peers (Viet & Phuong, 2017), and engage in increased activities due to peer encouragement (Rukundo, 2012). This effect is likely to be similar in the social media environment. Academic accomplishments are among

the three major factors that contribute to perceived pressure among teenagers (Trang et al., 2021). Furthermore, social effects that may impact the strength of peer influence, such as the need to belong (Alabri, 2022; Dhull & Beniwal, 2017; Perna, 2020) and social comparison orientation (Reer et al., 2019), are related to, or even mediated by, social media engagement as well.

Online Peer Norms is the social media feature that exhibits the strongest impact on peer influence. This factor is a combination of Nesi et al.'s (2018b) proposed features named Compensatory Behaviors and a portion of the Altered Qualitative Nature of Peer Influence. Compensatory Behaviors often emerge in online peer communities, particularly among groups of adolescents who are linked by shared characteristics, and these young individuals often exhibit a strong tendency to conform. This conformity is driven by a desire to attain social rewards like inclusion or recognition from their peers (Albert et al., 2013). While this mechanism is frequently associated with risky behaviors such as alcohol or drug consumption (Santor et al., 2000), it is important to note that researchers emphasized the capacity for positive behaviors that also mitigate the propagation of risks. This highlights the potential for academically positive norms to be introduced to adolescents in a similar way through academically engaged peers. The second constituent of Online Peer Norms also facilitates youths' development of attitudes and behaviors similar to those in online peer communities. This is achieved by enabling these groups of friends to thrive, as remote peers can be connected without geographical barriers, thereby promoting their preferred behaviors or activities (Nesi et al., 2018a).

The second factor, Novel Peer Experience, is also considerable in the relationship between social media and peer influence. It consists of three processes: Novel Experience, Amplification of Socialization Effects, and a portion of the Altered Qualitative Nature of Peer Influence. Collectively, this factor facilitates peer interactions, inducing identifiers of social support and status that play enormous roles in accelerating and strengthening peer influence. Novel Experience explains the existence of unfamiliar social constructs that diverge from real-life settings, such as the quantifiability of social support. Within the context of social media, support indicators include views, likes, shares, and follower counts. Individuals whose posts garner huge numbers of these indicators are more likely to be considered popular and likable, or called "influencers." This perception leaves a favorable impression on adolescents (Nesi et al., 2018b; Sherman et al., 2016; Trang et al., 2021), subsequently leading to increased awareness of their self-image and a desire to attain a similar level of popularity. Burnette et al. (2017) suggested a similar consequence when researching young adults' body image. The salience of influencers is also a main moderator in the conceptual framework of peer processes proposed by Brown et al. (2008), and teenage influencers are also a major factor in diet-related social influence on minors (Chung et al., 2021). The Altered Qualitative Nature of Peer Influence provides the presence of visual presentation. Photos are a means of self-expression, and frequent exposure to popular images depicting specific peer behaviors leads teenagers to perceive these behaviors as desirable attributes of peer profiles (Nesi et al., 2018b). It was found that 75% of adolescents admitted to started using alcohol after viewing peers' partying photos (Orlando Recovery Center, n.d.). The Amplification of Socialization Effects further expands this influence by ensuring that peers' posts can be encountered or accessed at any time and from any location within a broad network of adolescents. When the posts receive great views and reactions, the algorithm can repeatedly recommend them on users' feeds (Nesi et al., 2018a, 2023).

The second major finding addressed the research question of how social media experience processes impact FoMO. It was discovered that FoMO probably originated from social media, which agreed with the majority of FoMO research studies. Previous studies predominantly characterized FoMO as the constant need for up-to-date information and highlighted its close association with the frequency of social media usage (Alutaybi et al., 2020; Li, 2020; Perna, 2020; Scheinfeld & Voorhees, 2022) and problematic behaviors related to social media (Akat et al., 2022; Ergin & Karataş, 2022; Shen et al., 2020). Nevertheless, a contrasting perspective emerged from research conducted by Hamutoglu et al. (2020), suggesting that daily social media engagement did not significantly predict FoMO. Regarding

real-life FoMO, a study by Milyavskaya et al. (2018) suggested that FoMO might manifest and intensify during periods of focused studying. Similarly, Ragusa (2017) revealed that students participating in online classes, which were perceived to offer fewer advantages compared to traditional in-person lessons, expressed dissatisfaction attributed to FoMO. These observations indicate the potential existence of academic-related FoMO within social media contexts, where academic achievements and experiences are commonly shared (Anderson et al., 2022). In their study, Scheinfeld and Voorhees (2022) emphasized that people tended to view transgressive actions against COVID safety rules posted online more favorably due to heightened social needs and the connection to friends who were rule transgressors. Therefore, the authors speculated that a similar phenomenon could apply to academic-related FoMO, where academic accomplishments were held in admiration and were practiced by peers of whom adolescents had a good impression. The model proposed by Nesi et al. (2018b) suggests that FoMO on social media is linked to concerns about social status. As specific social media norms shape “socially desirable” peer profiles and further decide their status, adolescents might fear a loss of status if they do not conform to these behaviors (Nesi et al., 2018b). These insights help explain the significant positive correlation between FoMO and the first factor, Online Peer Norms. However, the Novel Peer Experience factor does not predict the level of susceptibility to FoMO, which contrasts with Nesi et al.’s (2018b) assertion that the Novel Experience of Peer Status constitutes FoMO. Further exploration is needed in the future to provide a more comprehensive explanation for this discrepancy.

The third major finding addressed the research question of whether FoMO mediates the impact of social media on peer influence. The study findings revealed a significant relationship between FoMO and peer influence, specifically highlighting FoMO’s role as a mediator in the connection between social media and peer influence. In accordance with Nesi et al.’s (2018b) findings, FoMO is closely tied to concerns regarding peer status, a fundamental driver behind the existence of peer influence. This implies that FoMO’s interaction with one’s desire for status potentially influences the levels of peer influence. As adolescents are increasingly exposed to academic activities perceived as rewarding on social media, they develop a fear of potential social isolation if they lag behind. Concurrently, this fear is coupled with a desire to be socially desirable (Nesi et al., 2018b), collectively giving rise to FoMO. This, in turn, leads to a higher likelihood of adopting similar behaviors, signifying peer conformity. In this manner, FoMO emerges as the transmission between social media and peer influence, thereby contributing to the explanation of the process (Baron & Kenny, 1986; Magill, 2011). This finding aligns with the conclusions drawn by numerous prior researchers who recognized FoMO as a mediator in various other social processes (Alt & Boniel-Nissim, 2018; Deniz, 2021; Ergin & Karataş, 2022; Shen et al., 2020). This finding implies that social media can directly form and affect peer influence via social media experience processes or indirectly impact it via FoMO. This observation is noteworthy, as it acknowledges the presence of not just one but two robust social phenomena that collectively exert a substantial effect on adolescents’ mentality, thus requiring careful management.

Lastly, the findings addressed the research questions of whether there is any relationship between peer influence and academic activities and between FoMO and academic activities. It was found that peer influence held significant predictive power over adolescents’ increased engagement in academic activities. The finding aligned with many researchers believing that peer influence could lead to changes in academic behaviors (Fernandez, 2019; Moldes et al., 2019; Rukundo, 2012; Viet & Phuong, 2017). As previously discussed, encountering a significant quantity of posts and photos focused on studying, seemingly endorsed, can encourage a sense of alignment with and the normalization of academic activities. Conversely, when adolescents are surrounded by peers who lean towards academic dishonesty, they may adopt a similar behavior (Fernandez, 2019). Therefore, the reverse will likely happen as well. Given that when adolescents are immersed in an environment where academic excellence is favored, their engagement with academic activities is likely to increase. This also means that social media probably indirectly impacts academic matters. The relationship between social media and academic performance has been studied by Ashraf et al. (2021) and Luo et al. (2020). How-

ever, these studies predominantly focused on the intentional use of social media for educational purposes, while this finding proves that social media, even when used without knowledge-accumulating intents, can alter academically related perspectives and behaviors. A surprising finding is that FoMO, though academically related, does not significantly impact academic activity participation. This is similar to Choukas-Bradley et al.'s (2015) findings that, although FoMO may change one's perspectives about the transgression of COVID-19 safety rules, it does not necessarily lead to an actual violation of the rules. Nevertheless, considering the relative gaps in the existing FoMO research context, a more comprehensive understanding of the correlation between FoMO and participation in academic activities will require in-depth future studies.

RECOMMENDATIONS

The research findings successfully addressed existing gaps in the understanding of peer influence, FoMO, and academic activities in the context of social media. This new knowledge can serve as a foundation for further in-depth research and the development of future programs. Understanding the role of social media in influencing academic well-being and academic outcomes can be valuable in formulating strategies to enhance students' interactions with social media for more effective learning and personal development.

One potential area for future research is exploring the complex relationship between FoMO and peer influence. While this study identified FoMO as a mediator, there might be more intricate dynamics at play, such as a cyclic relationship involving peer influence, FoMO, and social media. Further investigations can reveal a two-way process, where FoMO not only impacts peer influence but may also be affected by it. Another aspect for future researchers to delve into is the influence of social media on academic performance, academic self-concept as well as academic well-being, which are possibly mediated by peer influence. As the relationship among social media, peer influence, and academic activities has been discovered, there is a high likelihood that other aspects of adolescents' academic life and development can be altered as well, either in a positive or negative way.

On the practical side, the findings can inform the design of academic programs that encourage active student participation in school activities and promote resistance to academic pressures exacerbated by online peer influence. Social media can be leveraged as a platform to disseminate healthy messages about academic development and engagement, making such programs easily accessible and popular among students. Overall, these findings have the potential to significantly contribute to safeguarding adolescents' healthy academic and mental development while guiding them toward positive and responsible use of social media.

However, the study still contains certain limitations, which need to be pre-empted and actively resolved in future research. First of all, due to a lengthy questionnaire design, the survey participants' Experience was not as expected, resulting in some leaving their survey forms filled only halfway or randomly skipping a few questions. This caused many samples to be discarded so that the dataset was more suitable for analysis. Another issue was that, indifferent from other cross-sectional and self-report studies, the data gathered was highly dependent on the participants' temporary feelings and decisions, thus making the findings easily invalid in the far future. It is suggested that more studies should be conducted to consolidate this research's findings, including more objective ones such as brain activity observations within exposure to mentally influential social media posts and longitudinal research that especially notes students' academic activeness.

CONCLUSION

This study aimed to explore how social media influences adolescents' susceptibility to academic-related peer influence and FoMO, as well as the interaction between these constructs and adolescents' participation in academic activities. The findings revealed that social media experience processes significantly affected both peer influence and FoMO. Online Peer Norms and Novel Peer Experiences

were identified as dominant factors that increased susceptibility to peer influence. Similarly, Online Peer Norms also play a prominent role in predicting FoMO, while Novel Peer Experiences did not show a significant correlation. Adolescents' tendency to conform to the common behavior and shared values within peer groups significantly contributes to the effects of peer influence and FoMO. These social effects become more robust on online platforms where the peer network is much broader, more norms are displayed, and social support becomes more salient. One important implication of the findings is the strong influence of peers on youths, coupled with their desire for social recognition and rewards, which is also observed in preceding research. As adolescents often depend on social media to identify desirable personal traits, opinions, or behaviors, social media can initiate positive changes within youths' mindsets but also can be a manipulative force with potential mental impacts. Therefore, it is necessary to educate adolescents about embracing positive influences while maintaining resistance to the negative effects of social media.

The most notable finding is that social media experience processes indirectly influence students' academic participation through peer influence and FoMO. Although the impacts of peer influence and FoMO on academic matters are moderate, they remain significant due to youths' susceptibility and the pervasive nature of social media, which amplifies social effects. Social media can shape positive attitudes in students but may also pressure them to conform to perceived academic ideals, altering their academic lives, perceptions, and overall development. Hence, it is imperative for families, education practitioners, and experts to gain a comprehensive understanding of these phenomena and their consequences on adolescents. This understanding enables them to provide supervision, guidance, and companionship to foster an environment where adolescents can assimilate the positive influences while mitigating any adverse effects on their academic activities.

The research also demonstrated the applicability of the Nesi et al. (2018a, 2018b) transformational framework and provided valuable insights for further in-depth research and program development. The authors strongly recommend future research on the relationship between social media and academic development, as well as the interplay between peer influence and FoMO, based on these findings. Ultimately, the authors hope that this research will raise awareness among future generations about factors that can potentially affect their academic development. By understanding and addressing peer influence and FoMO, adolescents can foster healthier academic growth and better cope with the sources of impact in their educational journey.

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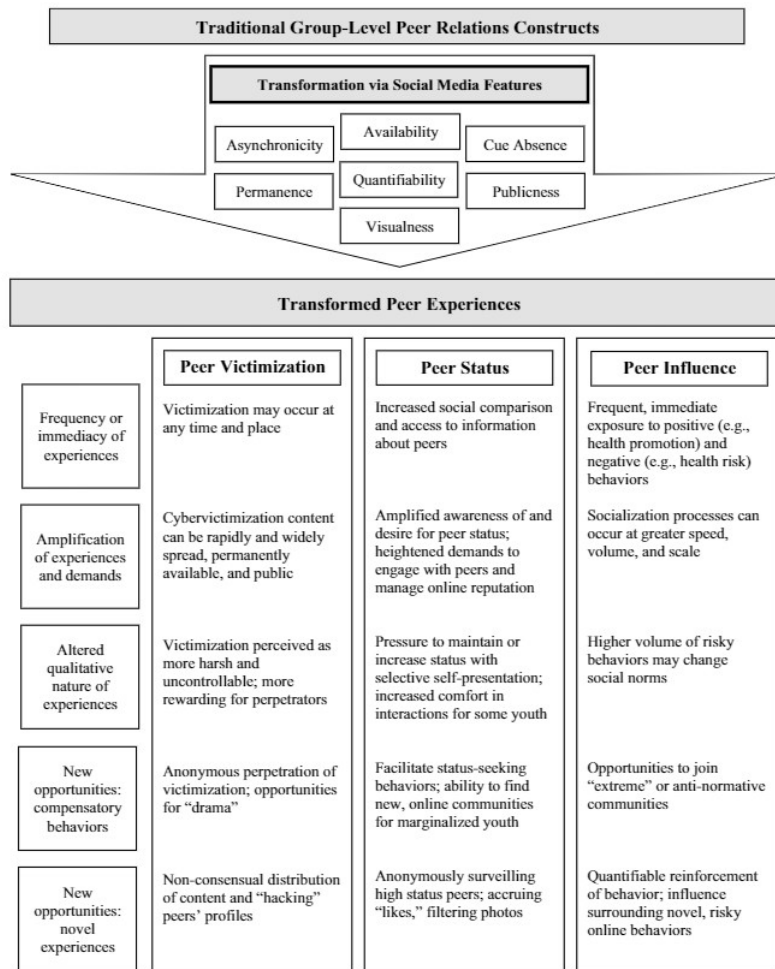
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APPENDIX A: THEORETICAL FRAMEWORK (Nesi et al., 2018b)



The transformation framework with examples of transformation of three group-level constructs

APPENDIX B: QUESTIONNAIRE FOR THE ONLINE GOOGLE FORMS SURVEY

1. ON SURVEY TAKERS' RIGHTS

All identifiable information of yours, such as names and email address, will be kept absolutely confidential by the research team. Aside from research purposes, we shall not use your information by all means.

All of the following questions are based on previous research we studied and issues regarding the questions' content will be kept minimal. However, you may still skip any question if you feel that it is fueling individual conflicts and lacks objectivity in the form.

We hope you can fill out the full form so that our research works out better.

Do you accept our terms of privacy and will you provide information sufficiently and in detail?

- Yes
 No

2. *INDIVIDUAL INFORMATION*

1. Gender:
 - Male
 - Female
 - Other
 - Prefer not to say

2. Current age:
 - 11 - 13
 - 14 - 16
 - 17 - 18
 - Other (fill-in)

3. Educational level:
 - Secondary/Junior high school
 - High school

4. Type of institution:
 - Public school
 - Private school
 - Semi-public school
 - International school

5. Area of residence:
 - Can Tho City
 - Other (fill-in)

6. Social media platform(s) currently in use:
 - Facebook
 - Youtube
 - Tiktok
 - Instagram
 - Snapchat
 - Twitter
 - Zalo
 - Other (fill-in)

7. Average time spent on social media:
 - <1h/day
 - 1-2h/day
 - 2-3h/day
 - 3-4h/day
 - >4h/day

APPENDIX C: SURVEY QUESTIONS

Opinions: 1 - Totally disagree, 2 - Partly disagree, 3 - Neutral, 4 - Partly agree, 5 - Totally agree

<i>Item</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>Reference sources*</i>	<i>Code**</i>
<i>Amplification of socialization effects</i>							
There are many opinions related to studying that belong to my peers and are unknown to me until posted on social media.						Nesi et al., 2018b, 2023	ASE1
<i>Novel Experiences</i>							
I see posts on social media about peers' academic activities and achievements receiving many reactions and comments.						Nesi et al., 2018b, 2023; Sherman et al., 2016; Trang et al., 2021	NE1
I conceive of the number of interactions on social media as a sign that the content is supported and loved.							NE2
I usually pay more attention to peers' posts about academic activities and achievements if they have more reactions and comments.							NE3
<i>Qualitative Nature of Peer Influence</i>							
I think academic activities posted on social media by my peers look interesting.						Nesi et al., 2018b, 2023; Brown et al., 2008	QNPI1
I think peers express their thoughts on academic matters more openly on social media.							QNPI2
There are things unlikely to seize attention in reality yet become viral once online.							QNPI3
I see academic activities and achievements widespread on the Internet as things most people my age ought to own.							QNPI4
<i>Compensatory Behaviors</i>							
I join many groups of academically like-minded people on social media.						Nesi et al., 2018b, 2023; Brown et al., 2008; Choukas-Bradley et al. 2018.	CB1
I see things members in those study groups do as the right thing to follow.							CB2
I think that online friends I have are just as great friends as those in real life.							CB3

<i>Item</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>Reference sources*</i>	<i>Code**</i>
I get to know and befriend some people because of the influential academic activities and achievements they posted.							CB4
<i>Peer Influence</i>							
I can remember academic-related posts very clearly if those are shared by my peers on social media.						Nesi et al., 2018b, 2023; Choukas-Bradley et al., 2018; Rukundo, 2012; Brown et al., 2008; Dhull & Beniwal, 2017; Oyeboade, 2017; Viet & Phuong, 2017.	PI1
I intend to follow the study behaviors of peers that I consider admired and adored by others.							PI2
I believe academic achievements and activities receiving huge rates of interactions and shares are very worthy of following.							PI3
I feel the need to participate in every academic activity most of my friends join.							PI4
I feel the need to imitate the study habits of members of social media study groups that I join.							PI5
I feel pressured if I cannot participate or achieve as much as my other peers.							PI6
<i>Fear of Missing Out (FoMO)</i>							
I'm afraid others are taking part in more academic activities and achieving more than me.						FoMO Scale - Przybylski et al., 2013.	FOMO1
I'm afraid friends are taking part in more academic activities and achieving more than me.							FOMO2
I'm very worried about my friends joining a splendid academic activity while I'm absent.							FOMO3
I'm worried if I may not know in advance what academic activities my peers are up to.							FOMO4
I consider being able to understand and immerse in conversations my friends have about academic matters, as very important.							FOMO5
Sometimes I wonder if I was taking too much time taking up academic activities similar to everybody else.							FOMO6
I feel distressed if I miss an opportunity to join an academic activity with friends.							FOMO7

<i>Item</i>	1	2	3	4	5	<i>Reference sources*</i>	<i>Code**</i>
I feel distressed if I miss an opportunity to join an academic activity with friends.							FOMO8
When there is an accomplishment or great learning experience, I feel that sharing it on social media is necessary.							FOMO9
<i>Academic activities</i>							
I take part in many clubs.						Rukundo, 2012; Viet & Phuong, 2017; Choukas-Bradley et al., 2018; Zunic, 2017; van Solt et al., 2018.	AA1
I take part in many academic competitions.							AA2
I enthusiastically participate in class and school projects.							AA3
I revise lessons and take tests very seriously.							AA4

* This column presents the research knowledge on which the questionnaire item's content is grounded; this does not appear in the survey form that was sent out to participants.

** This column presents the item's name after being number-coded for SPSS data analysis and does not appear in the survey form that was sent out to participants.

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