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PAPER

Impacts of Social Media Experiences on Academically Related Peer Influence and Fear of Missing Out of Secondary and High School Students

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ABSTRACT

Adolescents nowadays experience significant mental and behavioral changes, largely influenced by the pervasive use of social media, the rise in peer influence, and the fear of missing out (FoMO). However, many crucial questions regarding the relationships between social media, peer influence, and FoMO remain unanswered. Therefore, this study was conducted to explore the interconnections among social media processes, FoMO, and peer influence among secondary and high school students, with a specific focus on posts sharing academic achievements or experiences among peers. The research employed a quantitative approach, using a 5-point Likert scale questionnaire to collect data via an online survey. A total of 419 valid samples were collected and analyzed using factor analyses and structural equation modeling (SEM). The findings revealed that certain social media experience processes, namely online peer norms and novel peer experiences, significantly influenced both peer influence and FoMO. While online peer norms affected both phenomena, novel peer experiences only had an impact on peer influence. Moreover, FoMO played a mediating role in the relationship between social media experience and peer influence. Based on these findings, the study proposes solutions to optimize the impact of social media on adolescents. Gaining insights into the dynamics of social media processes, FoMO, and peer influence can enhance support for adolescents' mental well-being and address challenges in the digital age.

KEYWORDS

fear of missing out (FoMO), peer influence, social media experience, students

1 INTRODUCTION

A peer is defined as someone of the same age, interests, or abilities who can be one's friend, classmate, or even someone on television [1, 2]. Peer influence, sometimes referred to by a narrower term, peer pressure [3], can emerge during interactions

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with peers. Individuals may observe behaviors believed to be desirable among peer groups and feel incentivized to alter their behavior out of curiosity or to be valued and respected [1]. This influence becomes more robust as one approaches adolescence, a developmental stage characterized by significant physical, cognitive, and psychosocial changes [4]. During this period, individuals typically strive for independence from their parents and seek greater closeness with their peers. Fear of missing out (FoMO) refers to the desire to stay constantly connected to what others are doing, driven by the anxiety that they may be having rewarding experiences from which one is excluded [5]. Extensive research has been conducted to gain a reasonably clear understanding of various aspects of adolescent life where the influences of peers and FoMO can be observed. Peer influence is primarily linked to behavioral changes in young people, with a focus on studying adolescents' inclination towards risky behaviors to achieve social approval among their peers [6, 7]. FoMO, on the other hand, has been primarily characterized and studied in terms of its association with increased frequency of social media use, driven by the fear of missing out on information [8, 9].

90% of teenagers report having used social media, and 75% report having an active account on social media applications [10], making them highly likely to be exposed to the effects of social media. Both peer influence and FoMO are commonly believed, either subjectively or with research- and theory-based explanations, to be amplified by the growing frequency of teenagers' social media use [11–14]. There is also evidence that what friends share online can significantly impact how teenagers behave. For example, the national center on addiction and substance abuse at Columbia University found that 75% of teens felt encouraged to drink alcohol and use drugs after seeing peers posting party photos on social media [15]. It is suspected that their perception and academic behavior can also be affected in the same way. In recent years, the trend of sharing one's academic achievements or activities online has significantly increased. There has been a noticeable rise in the number of social media posts related to academic experiences or accomplishments, as well as the emergence of new influencers who share insights into their academic lives on major platforms. The recent trend of emphasizing one's academic status is likely to increase peer pressure and FoMO, which can have a negative impact on an adolescent student's self-esteem, study motivation, and academic well-being. Acknowledging the essential role of healthy academic development in securing future career stability and mental growth, the authors recognize the need to expand the community's understanding of online, academically related peer influence. Although the impacts of peer influence and FoMO on academic performance have been extensively studied in academic settings [16, 17], FoMO's effects have primarily been explored in real-life situations through face-to-face interactions with peers at school. Studies on peer influence related to academics and FoMO in the social media environment were scarce. Another gap in the research on peer influence and FoMO is the lack of clarity on whether there is a relationship between the two phenomena or if one can influence the other. While it is evident that peer influence and FoMO have similarities in how they can impact adolescents, the specific nature of their interaction remains unresolved. This is an important matter to discover as well, as both peer influence and FoMO have significant effects on adolescents' mental well-being [1, 5], [18–20]. In cases where the effects of the phenomena are simultaneous or intertwined rather than separate, the effects can be more serious and may necessitate more resilient methods.

Therefore, this study aims to address the research gap by analyzing the correlations among social media-related factors (specifically focusing on the promotion of academic experience), peer influence, and FoMO. This will be done through a quantitative study utilizing factor analyses and structural equation modeling (SEM). The research aims to enhance understanding of adolescent social behaviors and psychological

development, as well as the influential factors present in social media that contribute to their mental changes. This study seeks to provide recommendations for utilizing these impacts effectively and promoting healthy development among adolescents.

The main objectives of this study are to:

- Understand the influence of social media processes on perceived susceptibility to peer influence and FoMO among secondary and high school students.
- Explore the relationship between peer influence and FoMO.
- Examine the possible existence of peer influence that is rooted in social media and related to academic experiences or achievements.

2 MATERIALS AND METHODS

2.1 Literature review and hypotheses

Peer influence and FoMO have been attracting exponential research attention, with their findings serving as valuable recommendations for psychologists, psychiatrists, and educators involved in educating and promoting the healthy development of adolescents. A stable conceptual understanding of the phenomenon was developed from these research findings. Peer influence was explained by the concept of "behavioral display," which involves the imitation of peer behaviors that are often portrayed as "socially desirable" [3]. Experiments were conducted to explore adolescents' increase in risk-taking when peers might be aware of their risky game results. The study found an increase in the tendency to take risks and the presence of peer effects [21]. In general, peer influence consists of both positive and negative impacts. The positive effects are mostly attributed to motivating youths to strive for improvement, while the negative ones include damaging one's self-esteem and well-being and increasing the tendency toward maladaptive behaviors. Academically, peer groups have a strong influence on academic performance [22], and peer support in learning enhances academic performance [16]. Peer influence is crucial in the construction of one's self-concept [23], but it can be detrimental to well-being if adolescents are pressured to conform to behaviors they are reluctant to engage in [1] or constantly compare themselves to their peers [13]. Peer pressure is a form of peer influence [3]. This phenomenon is believed to emerge from poor self-esteem, communication gaps, familial problems, and feelings of distance and isolation [1]. Research suggests that peer pressure and peer conformity are strong predictors of risky behaviors [6], typically including cigarette smoking, unprotected sexual intercourse, and drug use [7]. It is also postulated that pressure can decrease academic performance [24] and increase the likelihood of academic dishonesty, such as cheating during exams [25]. Research indicates that males tend to experience higher levels of peer pressure [26].

In the digitalized era, the potential impact of peer influence through social media is being scrutinized. Chung et al. [27] further explored the impacts of social media on adolescents' eating behaviors and found that it could influence decisions to eat more healthfully or less healthfully. Four major factors leading to this were identified: visual appeal, content dissemination, socialized digital connections, and adolescent marketer influencers. The fourth factor represents peer influence, which, as the research also stated, worsens the effects on eating behaviors, leading to eating disorders. Burnette et al. [28] studied a related subject by investigating body image concerns that arise from social comparison on social media platforms. They found that online social influences exacerbated body dissatisfaction. The sources could be helpful references for further research on the influence of social media peers on various aspects, including academics.

Among the sources dedicated to this discipline, Nesi et al. [12] and Nesi et al. [13] proposed a particularly detailed theoretical-based interpretation of how social media features (e.g., publicity and availability) altered peer experiences and peer relation constructs such as peer victimization, peer influence, and peer status. Thus, the first hypothesis (H1) that "social media processes directly impact peer influence" was proposed.

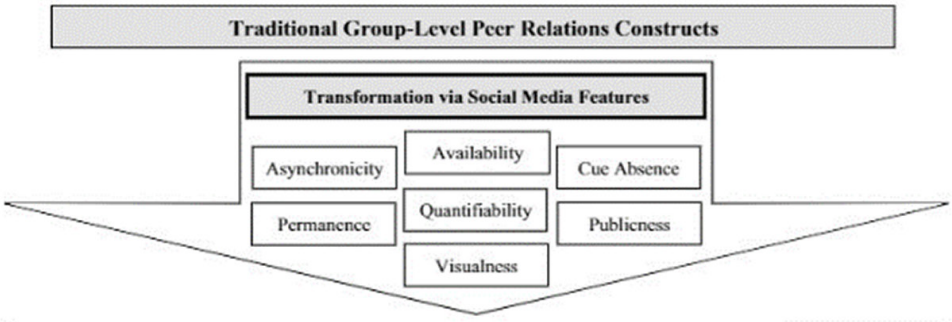
When it comes to FoMO, researchers often explore the negative impacts associated with social media use and harmful behaviors. As per the self-determination theory, FoMO originates from the need for relatedness, which leads to changes in behaviors to feel more socially connected [29]. One factor that significantly increases the level of FoMO one experiences is the need to belong [30]. Social comparison orientation can also be a factor in initiating FoMO, especially upward comparison. Consequently, the phenomenon causes significant decreases in one's positivity, self-esteem, and sense of belonging [20]. Numerous studies have indicated that FoMO is associated with loneliness, depression, anxiety, and reduced life satisfaction [5, 18–20]. In the academic context, FoMO can predict maladaptive behaviors, such as plagiarism, cheating, and distributing illegal drugs, with males showing a greater inclination to engage in such behaviors [31]. However, the effects of FoMO are not limited to mental effects, as FoMO has been found to be associated with poor sleep quality [32] and fewer hours of sleep [18]. Furthermore, FoMO is associated with behavioral changes. It is associated with the number of clubs students join [33] and consumers' choices in purchases or participation in events [34]. Regarding demographic factors, it was suggested that younger people reported higher levels of FoMO, and males experienced more FoMO than females [5, 35]. However, some other researchers disagreed, positing that females actually experienced slightly more FoMO than males and also had a higher tendency to increase their social media engagement [8, 30]. The most significant aspect of FoMO research is its correlation with social media. FoMO significantly fuels social media addiction, which is explained by the uses and gratification theory. This theory posits that people tend to engage in activities that fulfill their sociological needs [8]. Roberts and David [9] agreed with this by stating that FoMO positively correlates with social media intensity. However, they also claimed that it does not necessarily lead to more social connections. Findings suggest that a higher level of FoMO leads to more favorable perceptions of inappropriate behaviors shared on social media and an increased intention to follow such behaviors [14]. Predictors of susceptibility to FoMO include social appearance anxiety [36] and, most importantly, increased social media frequency [14]. The theoretical framework by Nesi et al. [12, 13] also mentions FoMO as a phenomenon reinforced by factors they named as social media experience processes in their model. Based on these findings, the second hypothesis (H2) that "social media processes directly impact FoMO" was developed in this study.

Both peer influence and FoMO are related to social media and social comparison and can further impact human behaviors. Yet, it is little known whether there is a relationship between them. Examining peer interactions on social media and research indicating that peer influence and FoMO can affect a variety of behaviors, the authors hypothesized that there might be a connection between them or a mechanism in which they are both implicated. FoMO was identified as a mediating factor in various relationships associated with media. This includes the link between extrinsic academic motivation and social media fatigue [17], the connection between social appearance anxiety and cyber-loafing [36], and the correlation between parent-child communication and children's problematic Internet use [37]. Additionally, Deniz [38] proposed that FoMO also acts as a mediator in the relationship between self-efficacy and life satisfaction. Essentially, social media could influence peer influence in two ways: either directly or indirectly, with FoMO as the mediator. Considering FoMO's mediating role in other processes, the third hypothesis (H3)

was formulated, suggesting that "FoMO mediates the impact of social media on peer influence."

2.2 Conceptual framework

This study was primarily grounded in the transformational framework [12, 13] concerning the impacts of social media attributes that have changed the nature of peer experiences (see Figure 1). This theoretical approach can be utilized to interpret a wide range of issues related to peer relationships on social media. The framework stated that social media effects were accounted for by four social media impacting processes: amplification of socialization effects (the process that exposes youths to social media influence anywhere and anytime), novel experiences (the quantified social desirability in forms of shares and reactions), altered qualitative nature of peer influence (the emergence of peer norms), and compensatory behaviors (the urge to conform to online peers' behaviors).



	Peer Victimization	Peer Status	Peer Influence
Frequency or immediacy of experiences	Victimization may occur at any time and place	Increased social comparison and access to information about peers	Frequent, immediate exposure to positive (e.g., health promotion) and negative (e.g., health risk) behaviors
Amplification of experiences and demands	Cybervictimization content can be rapidly and widely spread, permanently available, and public	Amplified awareness of and desire for peer status; heightened demands to engage with peers and manage online reputation	Socialization processes can occur at greater speed, volume, and scale
Altered qualitative nature of experiences	Victimization perceived as more harsh and uncontrollable; more rewarding for perpetrators	Pressure to maintain or increase status with selective self-presentation; increased comfort in interactions for some youth	Higher volume of risky behaviors may change social norms
New opportunities: compensatory behaviors	Anonymous perpetration of victimization; opportunities for "drama"	Facilitate status-seeking behaviors; ability to find new, online communities for marginalized youth	Opportunities to join "extreme" or anti-normative communities
New opportunities: novel experiences	Non-consensual distribution of content and "hacking" peers' profiles	Anonymously surveilling high status peers; accruing "likes," filtering photos	Quantifiable reinforcement of behavior; influence surrounding novel, risky online behaviors

Fig. 1. Transformation framework with examples of three group-level peer constructs [14]

Relating to the research findings of Nesi et al. [12] and Nesi et al. [13], the authors illustrated a theory-based conceptual framework in Figure 2. Despite initially having four social media-related factors, exploratory factor analyses (EFA) later grouped the items into simply two latent factors (see Results).

The theoretical framework was exclusively used for social media posts related to academic experiences and achievements so that the authors could study whether academically related peer influence could be observed.

The research framework devised for this study, along with its associated relationships encapsulated by three hypotheses, is presented in Figure 2, as outlined below:

H1: Social media processes directly impact peer influence.
H2: Social media processes directly impact FoMO.
H3: FoMO mediates the impact of social media on peer influence.

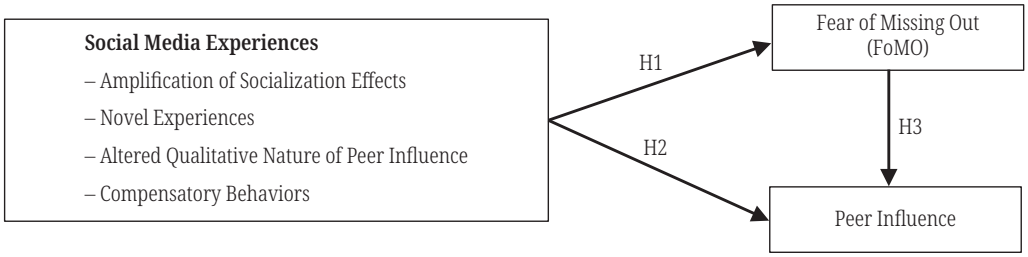


Fig. 2. Research conceptual framework

2.3 Research scope and questionnaire

The study targeted high school and secondary school students in Vietnam. The study adopted a quantitative approach, using a 5-point Likert scale questionnaire. This questionnaire consisted of a list of statements, each of which respondents could rate from 1 (totally disagree) to 5 (totally agree). The design of the questionnaire allowed respondents to express their attitudes and beliefs on a continuum, offering more flexibility than discrete choices found in multiple-choice questions while ensuring a quick and convenient response process. The questionnaire consisted of two sections: the first addressed respondents' privacy rights, consent acquisition, and demographic information, while the second utilized a 5-point Likert scale to measure the study variables. These variables were derived from the framework proposed by Nesi et al. [12] and Nesi et al. [13], reintegrating pertinent research discoveries. Additionally, the study included the 10-item FoMO scale from [5], which was adapted to align with the study's focus on academically related FoMO. To ensure the questionnaire's relevance and clarity, experts and mentors reviewed it for feedback on the questions and overall structure. Furthermore, the form was shared with 41 respondents from similar living conditions in different areas, which led to modifications for enhanced understandability. The final questionnaire, consisting of 27 items related to constructs, was used in the study after several iterative improvements.

2.4 Data collection

The study utilized the convenience sampling method to collect data. A structured questionnaire was distributed through Google Forms and disseminated primarily via students' social media pages, online school forums, and messaging applications like Facebook Messenger and Zalo. Data collection took place during a period when

the COVID-19 pandemic was less severe in Vietnam. However, the government continued to emphasize caution and limited social interaction. Thus, online platforms were considered the most suitable and flexible means to distribute the questionnaire effectively. A total of 566 samples from individual participants were collected. Following the guideline by Jackson [39], the number of responses appropriate for factor analyses and SEM should be 10 times the number of items in the survey form, which means at least $27 \times 10 = 270$ samples. After filtering out the responses with insufficient information, the final dataset comprised 419 responses. The study obtained approval from school principals for online participant recruitment on their forums, as well as the individual consent of respondents with the terms of commitment presented in the initial section of the survey form.

2.5 Data analysis

The study utilized a quantitative data approach, with reliability tested using Cronbach's alpha. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were utilized for validating the model, during which several changes were made (refer to Results). Structural equation modeling (SEM) was used as the primary method to test the hypotheses. The data were processed using the statistical package for the social sciences (SPSS) and the analysis of moment structures (AMOS).

On SPSS, the items were coded with the initials of the factors and their order in the question section, such as CB1 for the first item of the factor Compensatory Behaviors. The initial pilot Cronbach's alpha test and EFA led to the discarding of several unsuitable items because of crossed correlations. While the questionnaire originally had 32 items, the pilot test led to a decrease, and the official questionnaire consisted of only 27 items.

3 RESULTS

3.1 Participant information

This study involved 419 students from various secondary and high schools in Vietnam, aged 11 to 18. These students all have prior experience using social media. The participant distribution comprised 58.5% females, 37.2% males, and 4.3% identified as other genders. In terms of educational levels, 53 students (12.6%) were from secondary schools, while 366 students (87.4%) were from high schools. Concerning the types of institutions, 66.6% of the students attended public schools, 26.5% attended private schools, and the remaining 6.9% were from semi-public and international schools.

Participants reported significant daily use of social media. More than 70% of the respondents indicated spending an average of 2–4 hours per day and over 4 hours per day, while 19.6% reported using social media for 1–2 hours daily. Only 7.6% of participants reported using social media for less than 1 hour per day.

3.2 Exploratory factor analysis

After conducting exploratory factor analysis (EFA), the original four independent factors (representing perceived peer-related processes of social media theorized to influence peer influences) were reconfigured and combined into two new factors (the Eigenvalues were $4.269 > 1$ for Factor 1 and $1.064 > 1$ for Factor 2). The Cronbach's alpha tests produced satisfactory results ($\alpha = 0.798 > 0.7$ for Factor 1, $\alpha = 0.750 > 0.7$ for Factor 2). Table 1 presents the independent variables tested, including new factors

named online peer norms (OPN, merged from the original factors of compensatory behaviors and altered qualitative nature of peer influence) and novel peer experiences (NPE, merged from the original factors of novel experiences and amplified socialization effects). The suitability of factor analysis was evaluated based on several criteria: the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, which assesses the homogeneity of variables; total variance explained (TVE), indicating the portion of data explained by the model; and Bartlett's test of sphericity, a measure of how much the correlation matrix to be factored deviates from an identity matrix [40, 41]. The statistical results confirmed the suitability for factor analysis (KMO = 0.898 > 0.5, TVE = 53.334 > 50, Bartlett's test of sphericity (Sig.) < 0.001). Factor loadings all had statistical significance, as both factors had item loadings greater than 0.5. After the pilot testing phase, ASE2, ASE3, and ASE4 were removed from the model. Subsequently, two more items, NE3 and QNPI3, were eliminated after the official EFA analysis. After this step, the model was simplified by reducing the number of factors, ultimately strengthening it. No further alterations were made to the model after exploratory factor analysis.

Table 1. EFA and reliability test results (independent variables)

Constructs/Factors/Variables	Exploratory Factor Analysis – Varimax Rotation				Reliability
	Eigenvalues	Total Variance Explained	Kaiser-Meyer-Olkin	Barlett's Test of Sphericity (Sig.)	Cronbach's Alpha
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.					
CB2: I see things members in those study groups do as the right thing to follow.					
CB3: I think that the online friends I have are just as great friends as those in real life.					
CB4: I get to know and befriend some people because of the influential academic activities and achievements they posted.					
QNPI4: I see academic activities and achievements widespread on the Internet as things most people my age ought to own.					
Novel Peer Experiences	1.064				0.750
NE1: I see posts on social media about peers' academic activities and achievements receiving many reactions and comments.					
NE2: I conceive of the number of interactions on social media as a sign that the content is supported and loved.					
ASE1: There are many opinions related to studying that belong to my peers and were unknown to me until posted on social media.					
QNPI1: I think academic activities posted on social media by my peers look interesting.					
QNPI2: I think peers express their thoughts on academic matters more openly on social media.					

Table 2 displays the results of the EFA for the dependent variables, which include FoMO and peer influence. KMO > 0.5 and significant. < 0.001 were obtained for both individual analyses, along with a satisfactory TVE value exceeding 53%, confirming the model's appropriateness for performing EFA. Factor loadings with values greater than 0.6 have significant statistical implications. Eigenvalues of 3.287 > 1 for

peer influence and 4.839 > 1 for FoMO indicate that each construct does not need to be divided or the items do not need to be reconfigured. However, items FOMO1 to FOMO4 were deemed unsuitable and were excluded from the final version.

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

Constructs/Factors/Variables	Exploratory Factor Analysis – Varimax Rotation				Reliability
	Eigenvalues	Total Variance Explained	Kaiser-Meyer-Olkin	Barlett's Test of Sphericity (Sig.)	Cronbach's Alpha
Peer Influence	3.287	54.786	0.877	0.000	0.833
PI1: I can remember academic-related posts very clearly if those are shared by my peers on social media.					
PI2: I intend to follow the study behaviors of peers that I consider admired and adored by others.					
PI3: I believe academic achievements and activities receiving huge rates of interactions and shares are very worthy of following.					
PI4: I feel the need to participate in every academic activity most of my friends join.					
PI5: I feel the need to imitate the study habits of members of social media study groups that I join.					
PI6: I feel pressured if I cannot participate or achieve as much as my other peers.					
Fear of Missing Out (FoMO)	4.839	53.764	0.897	0.000	0.832
FoMO5: I consider being able to understand and immerse in conversations my friends have about academic matters, as very important.					
FoMO6: Sometimes I wonder if I was taking too much time taking up academic activities similar to everybody else.					
FoMO7: I feel distressed if I miss an opportunity to join an academic activity.					
FoMO8: I feel distressed if I miss an opportunity to join an academic activity with friends.					
FoMO9: When there is an accomplishment or great learning experience, I feel that sharing it on social media is necessary.					

3.3 Confirmatory factor analysis

Confirmatory factor analysis (CFA) examined the correlations among measured variables and latent variables, as well as among latent variables. To confirm the model's usability, the model fit criteria, as well as convergent and discriminant values, needed to be examined. The model met the model fit criteria, with values of Chi-square/df = 1.670 < 2 [42], CFI = 0.964 > 0.9, TLI = 0.959 > 0.9 [43], RMSEA = 0.040 < 0.08 [44], and no negative regression weights were estimated. The convergent quality was confirmed by estimated values of standardized regression weights, ranging from 0.521 to 0.746 > 0.5, P < 0.001 [45]. Table 3 also suggests that all covariances among latent variables in the model were below 1 (P < 0.001***), indicating that the model had a valid discriminant value as well [46]. The reliability of the CFA model was further supported by the absence of correlation among the errors of the variables. Cronbach's alpha results

tested previously for each factor were highly acceptable ($\alpha > 0.7$), ensuring the reliability of the model [47]. It was finally appropriate to proceed with SEM analysis.

Table 3. CFA covariance and P-values

			Estimate	SE	CR	P
OPN	⟷	PI	0.227	0.026	8.830	***
NPE	⟷	PI	0.193	0.024	8.135	***
FoMO	⟷	PI	0.210	0.025	8.536	***
OPN	⟷	FoMO	0.235	0.028	8.542	***
NPE	⟷	FoMO	0.193	0.025	7.649	***
OPN	⟷	NPE	0.234	0.028	8.381	***

Note: Significant level: ***p < 0.001.

3.4 Testing of hypotheses – structural equation modeling

Structural equation modeling, a method of multiple regression analysis, was chosen to evaluate the hypotheses. Figure 3 illustrates the SEM model, comprising two factors of social media origin: OPN and NPE, identified in earlier EFA as independent variables, and FoMO and peer influence as dependent variables. Peer influence was also dependent on FoMO. Table 4 displays the significance test of the relationships using regression weights. The results accepted all three hypotheses at the accuracy levels of P < 0.001 (***) and P < 0.01 (**), except for the relationship between NPE and FoMO. Specifically, the impact of NPE on FoMO was found to be insignificant (P = 0.088 > 0.05). Yet, as OPN still posited a statistically significant relationship with FoMO, H2 can be partially accepted. From this, the conclusion was derived that social media factors had significant impacts on peer influence and FoMO, with FoMO also mediating the indirect impact on peer influence.

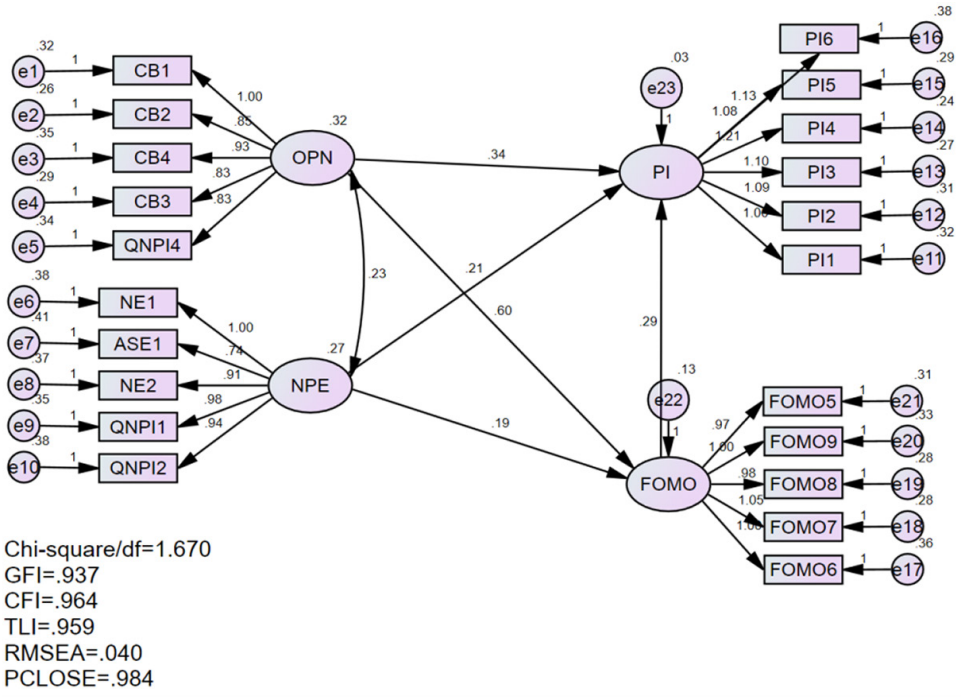


Fig. 3. Structural equation modeling

Table 4. Regression weights from SEM results

Relationship	Estimate	P	Hypotheses Testing	Result
PI ← OPN	0.344	***	H1 (factor OPN)	Accepted
PI ← NPE	0.205	**	H1 (factor NPE)	Accepted
FoMO ← OPN	0.600	***	H2 (factor OPN)	Accepted
FoMO ← NPE	0.191	0.088	H2 (factor NPE)	Rejected
PI ← FoMO	0.294	***	H3	Accepted

Note: Significant level: ***p < 0.001; **p < 0.01.

Table 5 displays the standardized regression weights, which quantify the influence of each independent variable on the dependent variables, and the squared multiple correlations, which illustrate the joint effect on each dependent variable. For PI, both social media characteristics—OPN, and NPE—had a direct impact. OPN posited an impact level of 0.423, indicating that a one-unit increase in OPN would result in a 0.423 increase in PI. For the direct impact of NPE, every 1-unit increase in NPE would account for a 0.234-unit increase in PI. FoMO can also significantly influence changes in PI susceptibility, with a coefficient of 0.356. This indicates that for every 1-unit increase in FoMO, there is a corresponding increase in 0.356 units of PI. Social media factors and FoMO had a combined impact of 85.6% on the variations in PI, indicating a strong influencing process.

For FoMO, social media factors also had direct, positive impacts. Among these factors, the factor of OPN accounted for the greatest impact level, which was 0.612. This implies that an increase of 1 in OPN would lead to FoMO increasing by 0.612. The combined impact on this variable was not as remarkable and crucial, yet it still held significant potential at 58.3%.

Table 5. Estimate of standardized regression weights and squared multiple correlations from SEM

			Estimate	Squared Multiple Correlations
PI	←	OPN	0.423	PI: 0.856
PI	←	NPE	0.234	
PI	←	FoMO	0.356	
FoMO	←	OPN	0.612	FoMO: 0.583

4 DISCUSSION

Social media processes have a significant influence on both peer influence and FoMO. This highlights the benefits of the theoretical framework proposed in references [12, 13] for analyzing peer-related phenomena, including the FoMO. The findings are consistent with previous studies on peer influence [12–14] and earlier research on the mediating role of FoMO [17], [36–38].

Social media experiences were found to significantly affect adolescents' susceptibility to peer influence. This is a relatively new finding. As most previous statistical research has focused on peer influence in conventional real-life settings, insufficient attention has been given to the potential existence of similar relationships online, through social media posts or online friend groups. The compensatory behaviors and altered qualitative nature of peer influence identified by [12, 13]

(referred to collectively as online peer norms) have the strongest influence on adolescents' susceptibility. The behaviors can be summarized as the tendency to favor or even conform to socially desirable behaviors termed "norms," such as showcasing one's studying productivity or participating in academic contests and winning prizes, shared widely on social media. Based on previous research, the influential power of peer norms is attributed to the fact that accomplishments can alter adolescents' perceptions of themselves and their academic standing. This is deduced from the influence of peers on self-concept and self-esteem [23, 28] and [48, 49]. Novel peer experiences are the combined factor of novel experiences and the amplification of socialization effects, which explains how online influence was exceptionally robust. According to [12, 13], social media's inherent characteristics make peer influence-eliciting posts or messages more prevalent anytime, anywhere, with quantified social support in the forms of reactions or shares. Similarly, Yang and Brown [50] stated that authentic self-presentation on Facebook is positively correlated with greater social support, which may lead to an upward social comparison process [12, 13]. Peer norms and the support they receive appeared more impressive and impactful. This observation is consistent with the findings of the experiments conducted by [21]. Moreover, research by Wilang [51] suggests that negative peer evaluation can lead to student anxiety, while Dolezal et al. [52] discovered that peer assessment enhances student engagement in the class. Consequently, social media, including pages and groups, emerges as a promising platform for promoting academic programs and activities [53]. Adolescent students or influencers with popular profiles can inspire their peers to participate. While social media has the potential to be a valuable source of peer motivation, excessive exposure may exert pressure on students with lower academic engagement. Furthermore, additional research is needed to explore the extent to which media-driven peer influence translates into actual academic engagement.

The correlation between FoMO and social media is consistent with other research studies [14, 17]. Furthermore, this research led to the discovery of some of the social media processes at play, which are online peer norms and novel peer experiences. Originally, FoMO was explained by the intrinsic need to belong, or relatedness, according to [29]. The existence of amplified socialization effects [12] makes relatedness even more important. Exposure to media posts is likely to stimulate feelings of unease if individuals realize they are lacking social connections. [19] also postulated that social media use, FoMO, and belonging needs were strong predictors of feelings of social rejection, especially social media use, which introduces people to potential FoMO triggers. The visually appealing quality of social media platforms [12, 13] contributes to the development of FoMO by presenting online posts in a more enticing manner. According to [5], such appeals trigger the fear of falling behind others. Desirable experiences are not limited to recreation, as indicated in the research by [54]. The differences in academic experiences between two groups of students triggered comparisons and dissatisfaction among those whose studying conditions were deemed less favorable. An important implication is that FoMO, intensified by peers' social media updates on academic experiences, can be leveraged by educators to stimulate peers' desires or intentions to engage in similar activities. However, similar to peer influence, the impacts of media-driven FoMO can be motivational but burdensome when excessive. Further research is needed to explore whether this translates into actual academic participation.

Finally, a relationship was established between FoMO and peer influence, with the former mediating the impact of social media on the latter. This newfound mediating role of FoMO is consistent with other research on online behaviors [17, 37, 38].

While [13] mentioned FoMO in the theoretical framework discussion only briefly, it was noted that FoMO might intensify a person's tendency to conform to online peer norms in order to avoid feeling excluded. Since both FoMO and peer influence are amplified by social media, and FoMO can also contribute to fostering peer influence, the combined effects of these social constructs can be significant and likely to become overwhelming. This underscores the need for a restrained and thoughtful approach to social media use, sometimes requiring intervention from parents and schools to ensure adolescents do not experience excessive pressure.

5 LIMITATIONS AND RECOMMENDATIONS

Several limitations were identified during the study. Firstly, as the questionnaire was lengthy and demanded a substantial amount of information, numerous respondents left various questions unanswered throughout the study. This resulted in the authors spending more time filtering out unsatisfactory samples, thus prolonging the process. Therefore, the first recommendation for future research is to optimize the questionnaire design and closely monitor the process to ensure that all respondents can efficiently answer every crucial question. Secondly, as a cross-sectional and self-reported study, this study is inherently limited by the impermanence of the personal thoughts and attitudes of the respondents, as well as their subjectivity in their self-perception. The possibility that their thoughts could change in the near future or that their responses were not consistent with their actual feelings had to be acknowledged. Thus, the authors believe that more research, such as empirical experiments and longitudinal studies, on the matter should be conducted.

The study's findings are significant for application in educational programs and strategies. They can serve as the foundation for future research on adolescent development or academic issues related to adolescents. The recognition that social media can significantly enhance academic-related peer influence and FoMO can first be utilized by teachers, parents, and professionals in creating peer-based motivational strategies. These strategies involve leveraging accomplished peer images, including those of online teenage influencers, to promote academic efforts and participation. Given the robust impact of social media, which involves both FoMO and peer influence, their effects can be particularly amplified. Therefore, attention should be given to finding appropriate peer-resistance strategies and psychological interventions to manage the influence and reduce the intensity that could potentially transform peer influence into pressure, leading to decreased well-being or self-esteem. The potential impact of social media-related peer influence and FoMO on students' academic participation, academic self-concept, and satisfaction is a compelling area for research with valuable practical implications. Finally, in addition to the academic aspect, the authors strongly recommend utilizing the [12, 13] framework to study other areas that may be affected by media-related peer influence and FoMO, which people are rarely concerned about, such as consumption behaviors and social networking.

6 CONCLUSION

This study aimed to investigate the potential effects of social media on adolescent students' susceptibility to peer influence and FoMO, particularly concerning changes in academic activities and achievements. Additionally, the study explored the correlation between peer influence and FoMO within this context. The research

adopted the framework proposed by [12, 13], which identified four components of social media experience processes that contribute to changes in adolescents' peer experience and facilitate strong social influence. The first component, ASE, refers to the increased availability and immediacy of social media communication, which leads to a higher frequency of peer interaction. The second component, NE, emphasizes the emergence and popularity of new indicators of social desirability or status, such as the number of reactions and visual appearance. The third component, the altered qualitative nature of peer influence (QNPI), involves the formation of peer norms and the internalization of these norms by adolescents. The fourth component, CB, includes online peer communities and the inclination to conform to them [12, 13]. During the factor analysis, the measurement items related to these four variables were restructured and combined into two distinct constructs. The first construct, online peer norms, includes descriptors of academic norm development from QNPI and CB. The second construct, novel peer experience, incorporates descriptors of contributing social media features from ASE, QNPI, and novel experiences.

The results indicate that social media experiences have a significant impact on the perceived level of academic-related peer influence and FoMO among adolescents. Specifically, the presence of online peer norms exerts a major influence. Collectively, social media experiences and FoMO account for up to 85% of the increase in peer influence. Furthermore, a relationship was observed between social media experiences and the increase in FoMO, with online peer norms being the significant factor rather than novel peer experiences. This suggests that peers, especially those perceived as popular and those who frequently interact with adolescents online, can influence adolescents' perspectives on academic issues and encourage academic engagement and success. Consequently, adolescents' engagement in academic activities, and their academic self-concept, and academic performance may be influenced. However, further research is needed to explore these aspects in greater detail.

The findings also revealed that FoMO mediated the relationship between social media experiences and peer influence. In other words, social media experiences indirectly impact peer influence by increasing adolescents' susceptibility to FoMO, which subsequently leads to conformity to peers in terms of perceptions and behaviors. This indicates a close connection between peer influence and FoMO, with the latter enhancing the former. The combined mental effects of these factors can be substantial, emphasizing the importance of careful attention and supervision by parents, teachers, and professionals. Interventions may be necessary to prevent any negative mental consequences. The study's findings provide valuable insights for teachers and professionals, enabling them to develop peer-based motivational strategies to foster positive study habits and ensure healthy academic development in adolescents.

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