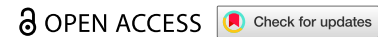




RESEARCH ARTICLE



Social media fatigue in emerging adulthood: exploring the role of fear of missing out and upward appearance comparison

Yolanda Jaya , Monique Elizabeth Sukamto  and Made Ayudhyastiti Savita Putri 

Clinical Laboratory, Faculty of Psychology, Universitas Surabaya, Surabaya, Indonesia

ABSTRACT

This study aimed to determine 1) the role of fear of missing out (FoMO) on social media fatigue (SMF) and 2) the role of upward appearance comparison (UAC) as a mediator between FoMO and SMF in 369 emerging adults in Indonesia. Using convenience sampling techniques, the data were analyzed using SPSS, which included descriptive analysis, Pearson correlation, and regression analysis with a mediator, as assessed by the Sobel test. The results of this study indicate that FoMO has significant direct and indirect roles, namely, through UAC mediation, in predicting increased SMF in emerging adulthood. UAC can fully mediate the role of FoMO in predicting SMF in male participants but only partially mediates in female participants. Future research can explore the same phenomenon more inclusively by including emerging adults who identify as transgender, agender, gender queer, or gender fluid, thereby clarifying the relationship patterns of FoMO, UAC, and SMF across broader gender representations.

ARTICLE HISTORY

Received 31 July 2024
Accepted 24 November 2025

KEYWORDS

Body image; fear of missing out; appearance comparison; social media; Indonesia

Introduction

The use of social media has increased drastically from year to year and is used by various groups. A survey of internet users in Indonesia aged 16–64 years showed that WhatsApp (90.9%), Instagram (85.3%), Facebook (81.6%), TikTok (73.5%), Telegram (61.3%), and X (Twitter; 57.5%) are the most commonly used social media applications in January 2024 (Annur, 2024). Social media enables users to connect and engage in interpersonal communication at any time and from anywhere. A report from NapoleonCat shows that users aged 18–24 years are in second place, namely, 32.9% of all Instagram users in Indonesia in February 2024 (NapoleonCat, 2024). The age range of 18–25 years is the transition period between adolescence and adulthood, which is called emerging adulthood (Arnett, 2018). At this time, individuals begin to explore the career path and identity they want, as well as the lifestyle they want to adopt (Padilla-Walker & Nelson, 2017; Santrock, 2019), so that social media allows users in emerging adulthood to stay connected and obtain information and entertainment (Naudé, 2022).

Social media can be thought of as having two opposing sides, namely, the bright side and the dark side. The term ‘the dark side of social media’ is used to refer to the negative side of social media, which damages the freedom and welfare of individuals and communities (Baccarella et al., 2018). Fear of missing out (FoMO), social media fatigue (SMF), social comparison (Talwar et al., 2019), social media stalking, online self-disclosure, compulsive social media use, and problematic sleep (Dhir et al., 2021) are phenomena that refer to the dark side of social media.

Excessive use of social media can cause social media fatigue (SMF), which has recently become increasingly interesting for further research (Dhir et al., 2019; Hattingh et al., 2022; Jabeen et al., 2023; Kurniawan et al., 2023; Malik et al., 2020; Murniasih, 2023; Ou et al., 2023; Tandon et al., 2021; Zheng & Ling, 2021). SMF is defined as a subjective experience consisting of negative feelings, such as tiredness, annoyance, anger, disappointment, alertness, loss of interest or reduced need or motivation to use and interact on social media (Ravindran et al., 2014). SMF is an unpleasant feeling or mental fatigue caused by

CONTACT Monique Elizabeth Sukamto  monique@staff.ubaya.ac.id

© 2025 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

interacting for too long on social media (Dhir et al., 2018). Individuals are assumed to have limited capacity to process information through media, which is called the limited capacity model (Lang, 2000). The existence of cognitive limitations in receiving information causes individuals to feel SMF on social media (Zhang et al., 2021). SMF is a tendency to stay away from social media when users are overwhelmed by the information they receive (Bright et al., 2015).

SMF can have both positive and negative impacts based on perceived information pressure and how individuals respond to social media (Zhang et al., 2020). Positively, SMF can make social media users aware of reducing the duration of use and understand the risks of excessive use of social media (Ashiru et al., 2022). However, SMF can also cause negative impacts, such as anxiety and depression (Dhir et al., 2018), as well as decreased academic performance (Dhir et al., 2019; Malik et al., 2020). The impact of SMF on the emotional condition of social media users can range from mild or temporary to intense or relatively permanent, which in turn causes various effects on user activities, such as the ability to stop using social media for a while, reduce or limit the use of social media, and stop the use of social media for a certain period until the user feels ready to reactivate their account (Ravindran et al., 2014).

SMF can be caused by various factors, such as cognitive, self and personality, environmental, and social factors (Sunil et al., 2022). The cognitive factors that can cause SMF include boredom and privacy problems (Adhikari & Panda, 2019; Bright et al., 2015; Dhir et al., 2019), burden and anxiety (Dhir et al., 2019), nomophobia (Whelan et al., 2020), self-disclosure and intensity of social media use (Malik et al., 2020). The self- and personality factors that cause increased vulnerability to SMF include high self-efficacy or competence on social media (Logan et al., 2018), FoMO (Bright & Logan, 2018), and the personality trait of neuroticism (Lee et al., 2014). Environmental factors, such as parental encouragement (Dhir et al., 2019), cyberbullying victimization (Cao et al., 2019), extrinsic academic motivation (Shen et al., 2020), and social factors, such as social comparison (Jabeen et al., 2023; Malik et al., 2020; Murniasih, 2023; Tandon et al., 2021), can also cause SMF.

Fear of missing out (FoMO) is one of the psychological stressors that serves as the main driver of SMF (Bright & Logan, 2018; Ou et al., 2023). FoMO is characterized by a feeling of fear of missing out if individuals do not gain valuable experiences that other people have, thus encouraging individuals to continue connecting with other people (Przybylski et al., 2013). FoMO can be explained through self-determination theory (SDT), which states that humans have three basic needs, namely, competence, autonomy, and relatedness. Competence refers to the basic need to feel effective and efficient in life; autonomy refers to the basic need to regulate one's own actions; and relatedness refers to the basic need to be connected and accepted by others (Ryan & Deci, 2017).

FoMO can occur on social media because of the fear and worry of social media users if they miss out on or are absent from valuable or enjoyable experiences received by other people, such as peers and family (Przybylski et al., 2013; Tandon et al., 2021). FoMO in social media is characterized by frequently opening it and not being able to stay away from the smartphone, as well as updating activities on social media as a form of desire to stay connected in cyberspace (Putri et al., 2019). Social media users with high levels of FoMO also show a greater tendency to engage in social comparison, namely, by comparing themselves with other people in terms of social status, achievements, and life situations (Jabeen et al., 2023; Tandon et al., 2021).

Social comparison can occur on social media because of the large amount of interesting visual content. Social comparison theory was originally put forward by Festinger to explain the tendency of individuals to evaluate themselves through comparisons with other people (Halliiwell, 2012) and is now also applied to comparisons of other personal attributes, including physical appearance (Bailey & Ricciardelli, 2010; Halliiwell, 2012; Myers & Crowther, 2009; O'Brien et al., 2009). The tendency to evaluate oneself and compare one's appearance with others is called appearance comparison (Halliiwell, 2012). The availability of various features on social media has made appearance comparisons increasingly common (Fox & Vendemia, 2016; Tiggemann & Miller, 2010). There are two forms of appearance comparison, namely, upward appearance comparison and downward appearance comparison. Upward appearance comparison (UAC) is a comparison of appearance with a figure who is considered more attractive, while downward appearance comparison is a comparison of appearance with a figure who is considered less attractive (Halliiwell, 2012; O'Brien et al., 2009).

Social comparison can significantly predict the occurrence of SMF because social media users, who tend to make comparisons when browsing other people's social media profiles to determine their activities, can

experience negative feelings or become tense and overwhelmed by the information available (Malik et al., 2020; Tandon et al., 2021). UAC may also be able to predict the occurrence of SMF because UAC can cause dissatisfaction with appearance and a less positive mood (Brown & Tiggemann, 2016; Fardouly et al., 2015; Fardouly et al., 2017). Fardouly et al. (2017) found that UAC carried out on social media had a greater influence on mood, which was less positive than UAC carried out in person or through traditional media.

We used the Theory of Compensatory Internet Use (TCIU; Kardefelt-Winther, 2014) and social comparison theory (SCT; Festinger, 1954) to explain the relationship between FoMO and social media fatigue, with upward appearance comparison as a mediator. The theory of compensatory internet use explains that negative life situations can create motivation to access the internet to relieve negative feelings (Kardefelt-Winther, 2014). FoMO is positively correlated with social media fatigue because users feel compelled to stay connected to avoid or compensate for lost experiences (Xie et al., 2024). Social media users frequently compare their attractiveness, resulting in negative self-evaluations and increased problematic social media use. FoMO and social comparison frequently lead to increased usage of social media because individuals strive to bridge the perceived gap between their own experiences and those of others (Servidio et al., 2024).

Previous research on the relationships among FoMO, social comparison, and SMF, which has been conducted in Indonesia and other countries (the United States and the United Kingdom), has shown that FoMO can predict SMF, both directly and indirectly, which is mediated by social comparison (Jabeen et al., 2023; Murniasih, 2023; Tandon et al., 2021). Both previous studies (Jabeen et al., 2023; Tandon et al., 2021) highlighted general social comparisons, which included comparing oneself, daily behavior, performance, achievements, ways of coping with problems, and life situations with other people on social media. This research focused more on appearance comparison, especially upward appearance comparison, because the large amount of visual content posted on social media can increase users' tendency to compare their appearance with other users (Anixiadis et al., 2019; Dittmar & Howard, 2004; Fardouly et al., 2015). In addition, appearance comparisons carried out with people who are considered to have a more attractive appearance can harm body image and mood (Fardouly et al., 2017; Haferkamp et al., 2011; Tiggemann & Zaccardo, 2015). Murniasih's (2023) research in Indonesia also did not specifically discuss appearance comparison but focused more on social comparison in general, although that research used the same measuring instrument of appearance comparison as this research.

Previous research suggests that gender differences can influence FoMO (Brailovskaia et al., 2023; Przybylski et al., 2013). Previous studies on FoMO in Germany (Brailovskaia et al., 2023) and the United States, India, Australia, Canada, England, and other countries (Przybylski et al., 2013) have shown that men are more susceptible to FoMO than women, although other research in Germany did not find any differences in FoMO between men and women (Rozgonjuk et al., 2021). Gender differences in SMF have also been shown by previous research findings in India, Kuwait, Korea, the United States, and the United Kingdom (Adhikari & Panda, 2019; Al-Shatti et al., 2022; Choi & Mahoney, 2020; Tandon et al., 2021), which stated that women experience higher SMF than men. However, previous research in the United Kingdom did not show any differences in SMF between men and women (Al-Shatti et al., 2022).

An upward appearance comparison (UAC) was also found to be influenced by gender differences. Previous studies in the United States (Fox & Vendemia, 2016; Franzoi et al., 2012) and Canada (Strahan et al., 2006) have shown that women perform UAC more often than men. These findings encouraged us to further explore the possible differences in the relationship patterns between FoMO, UAC, and SMF among male and female participants in emerging adulthood in Indonesia. The research hypotheses proposed in this study are formulated as follows:

H1. Fear of missing out (FoMO) plays a direct role in social media fatigue (SMF) during emerging adulthood.

H2. Fear of missing out (FoMO) plays an indirect role in social media fatigue (SMF) during emerging adulthood, which is mediated by upward appearance comparison (UAC).

H3. Fear of missing out (FoMO) plays a direct role in social media fatigue (SMF) in male emerging adulthood.

H4. Fear of missing out (FoMO) plays an indirect role in social media fatigue (SMF) in male emerging adulthood, which is mediated by upward appearance comparison (UAC).

H5. Fear of missing out (FoMO) plays a direct role in social media fatigue (SMF) in female emerging adulthood.

H6. Fear of missing out (FoMO) plays an indirect role in social media fatigue (SMF) in female emerging adulthood, which is mediated by upward appearance comparison (UAC).

Method

Participants

This research used a non-random sampling method, namely, convenience sampling, which prioritizes participant comfort and ease of obtaining participants (Neuman, 2014). The criteria for participants in this study were (1) women or men who used social media (e.g. Instagram, TikTok, X (Twitter), Facebook, YouTube, WhatsApp) actively and passively; (2) aged 18–25 years; and (3) domiciled in Indonesia. Active social media users carry out various activities, such as creating statuses, uploading photos or videos, and interacting with other users, while passive users carry out only certain activities, such as scrolling and visiting other users' profiles. This research involved 369 participants, consisting of females ($n = 260$) and males ($n = 109$) in emerging adulthood.

Procedure and ethical approval

Distribution of research questionnaires was carried out using Google Form. Before deployment, researchers obtained ethical clearance from the Ethics Committee of the University of Surabaya (No. 237a/KE/X/2023). Before completing the questionnaire and agreeing to be involved in this research, participants could read the informed consent, which was accompanied by an explanation regarding participant involvement, voluntary participation, confidentiality, and the benefits and risks for participants.

Measurement

Participant characteristics

The characteristics of the participants in this study were explored using several questions regarding demographic data, including name or initials, gender, age, domicile, and romantic relationship status. Apart from that, there were also several open-ended questions to explore FoMO, UAC, and SMF among the participants, including things they wanted to know from friends or other people on social media, physical parts compared to members of the same gender on social media, and energy-consuming activities on social media. The participants could answer open-ended questions according to the conditions they experience or feel. They were allowed to choose more than one answer from several available answer choices, including 'Other' and 'None'. The 'Other' option was provided so that participants could write their answers freely if they had answers not included in the available answer choices.

Social media fatigue

Social media fatigue was measured using the Social Media Fatigue Scale (Tandon et al., 2021), which was translated into Indonesian. Tandon supplemented the previous studies' SMF scale (Islam et al., 2020; Whelan et al., 2020) with one item, 'I am frequently overwhelmed by the amount of information available on FB' (Dhir et al., 2018), by replacing 'on FB' with 'on social media.' The SMF scale, which has six items, is unidimensional and ranges from 1 (strongly disagree) to 5 (strongly agree). This scale measures social media fatigue experienced (e.g. 'During social media use, I often feel too fatigued to perform other tasks well'). The higher the score indicated, the higher the fatigue experienced using social media. The results of the social media fatigue scale reliability test in this study indicate strong internal consistency, with a Cronbach's alpha of 0.848 and a CITC range of 0.597–0.695, with no items dropped, suggesting that the scale is reliable for measuring social media fatigue.

Fear of missing out

The fear of missing out was measured using the fear of missing out scale (Tandon et al., 2021), which was translated into Indonesian. The original Fear of Missing Out Scale (FoMOS) contains ten items (Przybylski et al., 2013). Tandon chose only five of the ten items with good factor loadings (>0.6) and added 'on social media' at the end of each item. The FoMOS used in this study is a unidimensional scale with 5 items ranging from 1 (strongly disagree) to 5 (strongly agree). This scale measured the fear that individuals feel about missing out on valuable experiences from others on social media (e.g. 'I fear others have more rewarding experiences than me on social media'). The higher the score indicated, the higher the fear of being left behind by others on social media. The reliability test results for the FoMOS showed strong internal consistency, as evidenced by the Cronbach's alpha value of 0.841. In addition, the corrected item-total correlation (CITC) values, ranging from 0.572 to 0.698, further supported the reliability of the instrument, indicating that each item correlated well with the total score. The absence of dropped items indicated that all the items contributed positively to the overall reliability of the instrument.

Upward appearance comparison

Upward appearance comparison was measured using Upward Appearance Comparison Scale (O'Brien et al., 2009), which was adapted in Indonesia by Sukanto (2020). This is a unidimensional scale with ten items ranging from 1 (very unsuitable) to 5 (very suitable). This scale measured an individual's tendency to make appearance comparisons with others who are seen as more attractive (e.g. 'I tend to compare myself with people who I think look better than me'). Higher scores indicated a greater tendency to compare oneself with targets perceived as more physically attractive. The results of the UACS reliability test indicate a high level of internal consistency, as evidenced by a Cronbach's alpha value of 0.920, and no items are dropped, which suggests that the items within the instrument measure the same underlying construct effectively. Additionally, the corrected item-total correlation (CITC) values range from 0.605 to 0.786, further supporting the reliability of the instrument.

Data analysis

Research data were analyzed using Statistical Package for Social Sciences (SPSS) software version 25.0. Descriptive statistics were used to calculate the frequency and percentage of categorical variables, as well as Pearson product-moment correlation analysis was used to test the correlation between the three research variables. Next, regression analysis with a mediator was used to test the significance of the direct role of FoMO (independent variable) on UAC (mediator variable), UAC on SMF (dependent variable), and FoMO in SMF. In addition, the SOBEL test was used to test the significance of the indirect role of FoMO in SMF through UAC mediation in individuals in emerging adulthood.

In order to explore the differences in relationship patterns between FoMO, UAC, and SMF in male and female participants, hierarchical regression analysis was used to test the significance of the role of gender in SMF. In addition, an independent-samples *T*-test was also added to test the significance of the mean differences in SMF, FoMO, and UAC between male and female participants.

Results

Demographic characteristics

Table 1 shows that the total number of participants in this study was 369 people, consisting of women (70.5%) and men (29.5%). Most participants were 21 years old (31.7%), domiciled in Java (58.8%), and had a single romantic relationship status (71.5%).

Table 1. The demographic characteristics of the participants ($N = 369$).

Characteristics	<i>f</i>	%	Characteristics	<i>f</i>	%
Gender			Romantic relationship status		
Female	260	70.5	Single	264	71.5
Male	109	29.5	Dating	100	27.1
Age (years)			Married	5	1.4
18	81	22.0	Domicile		
19	34	9.2	Java	217	58.8
20	55	14.9	Borneo	96	26.0
21	117	31.7	Sulawesi	22	6.0
22	43	11.7	Sumatra	15	4.1
23	16	4.3	Bali	14	3.8
24	11	3.0	Nusa Tenggara	4	1.1
25	12	3.3	Papua	1	0.3

Table 2. Correlation analysis between variables.

No.	Variable	1	2	3
1	Social media fatigue	–		
2	Fear of missing out	0.344 ^a	–	
3	Upward appearance comparison	0.444 ^a	0.365 ^a	–

^aCorrelation is significant at the 0.01 level (2-tailed).

Table 3. Regression analysis and mediation analysis with a SOBEL test of FoMO in SMF with UAC as a mediator.

Variable	R^2	β	<i>B</i>	S.E.	<i>t</i>	Sig.
FoMO → UAC (path a)	0.133	0.365	0.363	0.048	7.501	0.001
UAC → SMF.FoMO (path b)	0.134	0.368	0.352	0.046	7.498	0.001
FoMO → SMF.UAC (path c')	0.071	0.209	0.199	0.046	4.265	0.001
FoMO → SMF (path c)	0.118	0.344	0.327	0.046	7.008	0.001
Variable		Value		S.E. Indirect	<i>t/z</i>	Sig.
FoMO → UAC → SMF		0.127		0.024	5.279	0.001

FoMO = fear of missing out; UAC = upward appearance comparison; SMF = social media fatigue.

Correlation analysis between FoMO, UAC, and SMF

Table 2 shows a significant positive correlation between FoMO and the SMF ($r = 0.344$, sig. = $0.001 < 0.01$). UAC also had a significant positive correlation with SMF ($r = 0.444$, sig. = $0.001 < 0.01$). Apart from that, there is also a significant positive correlation between FoMO and UAC ($r = 0.365$, sig. = $0.001 < 0.01$). The significant correlation between these three variables supports the use of regression analysis with mediators.

Mediating analysis

Table 3 and Figure 1 show that FoMO has a significant direct role in predicting increased SMF ($\beta = 0.209$, $t = 4.265$, sig. = $0.001 < 0.01$). These results support Hypothesis 1 in this study. UAC is proven to be able to partially mediate the relationship between FoMO and SMF because of the direct role of FoMO in UAC ($\beta = 0.365$, $t = 7.501$, sig. = $0.001 < 0.01$), and the direct role of UAC in SMF ($\beta = 0.368$, $t = 7.498$, sig. = $0.001 < 0.01$) is also significant. In addition, the SOBEL test shows that FoMO can predict SMF indirectly through UAC as a mediator (IE = 0.127, $z = 5.279$, sig. = $0.001 < 0.01$), thus supporting Hypothesis 2 in this study.

The role of fear of missing out on social media fatigue, with upward appearance comparison as a mediator based on gender

The results of hierarchical regression analysis (Table 4) show that gender plays a significant role in SMF ($\beta = 0.196$, $t = 3.829$, sig. = $0.001 < 0.01$). Next, Table 5 shows the results of the mean difference test (*T*-test) of SMF, FoMO, and UAC between male and female participants. All participants experienced moderate SMF (mean = 3.28), but female participants (mean = 3.40) experienced significantly higher SMF than male

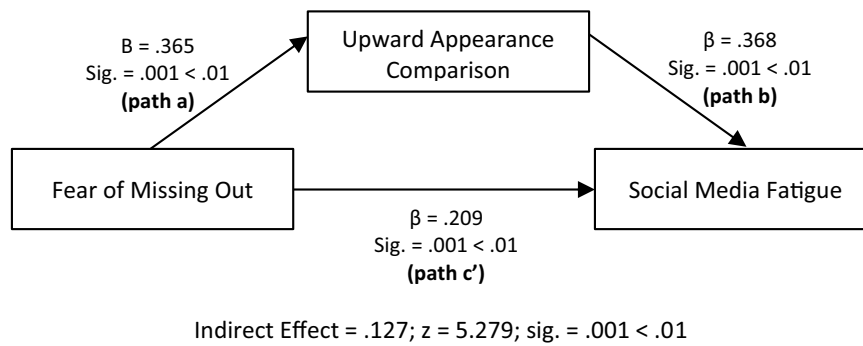


Figure 1. Model of social media fatigue in all participants. Indirect effect = 0.127; z = 5.279; sig. = 0.001 < 0.01.

Table 4. Regression analysis of gender, FoMO, and UAC on SMF.

Predictor	R	R ²	R ² change	β	t	Sig.
Gender	0.494	0.244	0.038	0.196	3.829	0.001
FoMO			0.111	0.334	6.914	0.001
UAC			0.094	0.342	6.741	0.001

FoMO = fear of missing out; UAC = upward appearance comparison; and SMF = social media fatigue.

Table 5. T-test between males (N = 109) and females (N = 260).

Variable	Gender	Mean	Mean total	SD	T	df	Sig. (2-tailed)
Social media fatigue	Male	3.02	3.28	0.913	-3.829	367	0.001
	Female	3.40		0.845			
Fear of missing out	Male	2.24	2.32	0.907	-1.054	367	0.293
	Female	2.35		0.935			
Upward appearance comparison	Male	2.73	3.10	0.928	-5.255	367	0.001
	Female	3.26		0.875			

participants (mean = 3.02). A significant difference was also found in UAC (mean = 3.10); namely, female participants (mean = 3.26) performed higher UAC than male participants (mean = 2.73). The participants in this study felt that FoMO tended to be low (mean = 2.32), and there was no significant difference in FoMO between female (mean = 2.35) and male participants (mean = 2.24). Table 6 describes the overall characteristics of participants by gender based on the results of the open-ended questions.

Next, we conducted regression analysis with mediators and SOBEL tests separately on male and female participants. In male participants (Table 7 and Figure 2), FoMO plays a role in predicting SMF indirectly through full mediation of UAC (IE = 0.112, z = 2.446, sig. = 0.014 < 0.05) because the direct role of FoMO in SMF was not significant ($\beta = 0.122$, $t = 1.349$, sig. = 0.180 > 0.05). These findings support Hypothesis 4 but do not support Hypothesis 3 in this study. Different results were found in female participants (Table 7 and Figure 3), which show that FoMO can play a direct ($\beta = 0.267$, $t = 4.458$, sig. = 0.001 < 0.01) and indirect role in predicting SMF through partial mediation of UAC (IE = 0.108, z = 4.049, sig. = 0.001 < 0.01), thus supporting hypotheses 5 and 6 in this study.

Discussion

This study aims to examine the role of fear of missing out (FoMO) on social media fatigue (SMF) during emerging adulthood, with upward appearance comparison (UAC) as a mediator. The results of this study indicate that FoMO has a significant role in predicting the occurrence of SMF, both directly and indirectly, through UAC mediation, during emerging adulthood, thus supporting H1 and H2. The proven direct role of FoMO in SMF shows that the increasing fear of missing out on valuable experiences held by other social media users can predict increasing fatigue in the use of social media in emerging adulthood. The results of this study are in line with previous research findings on emerging adult users of social media in Indonesia

Table 6. Overall characteristics of participants by gender.

Participants responses	Male (N = 109)		Female (N = 260)		Total (N = 369)	
	f	%	f	%	f	%
Most frequently used social media (last 6 months)^a						
Instagram	90	82.6	223	85.8	313	84.8
TikTok	57	52.3	190	73.1	247	66.9
YouTube	89	81.7	142	54.6	231	62.6
X (Twitter)	36	33.0	148	56.9	184	49.9
Facebook	21	19.3	17	6.5	38	10.3
WhatsApp	4	3.7	17	6.5	21	5.7
Reasons to be active on social media^a						
Following new things on social media	73	67.0	214	82.3	287	77.8
Staying connected with other people online	69	63.3	182	70.0	251	68.0
Diverting attention from the problem at hand	45	41.3	150	57.7	195	52.8
Updating activities on social media	31	28.4	125	48.1	156	42.3
Have no or fewer other activities offline	41	37.6	92	35.4	133	36.0
Most searched things on social media^a						
Photo or video uploads from peers	70	64.2	166	63.8	236	64.0
Photo or video uploads from celebrities	43	39.4	183	70.4	226	61.2
Chatting group	43	39.4	94	36.2	137	37.1
Photo or video uploads from unknown people	28	25.7	83	31.9	111	30.1
Photo or video uploads from family members	26	23.9	71	27.3	97	26.3
Comments on self-photo uploads	13	11.9	52	20.0	65	17.6
Things participants want to know from friends or other people on social media^a						
Getting notifications or messages so they don't miss important information	76	69.7	167	64.2	243	65.9
Updates on activities that other people are doing	55	50.5	149	57.3	204	55.3
Current trends followed by others	41	37.6	135	51.9	176	47.7
Looking for viral posts on social media	27	24.8	101	38.8	128	34.7
Daily duration of social media usage						
>9 h/day	10	9.2	34	13.1	44	11.9
7–9 h/day	5	4.6	37	14.2	42	11.4
5–<7 h/day	32	29.4	71	27.3	103	27.9
3–<5 h/day	33	30.3	71	27.3	104	28.2
1–<3 h/day	27	24.8	44	16.9	71	19.2
Energy-consuming activities on social media^a						
Conducting personal chat communications with friends or other people	45	41.3	132	50.8	177	48.0
Creating and producing content to share	29	26.6	90	34.6	119	32.2
Giving likes or reactions on posts from friends or other people	36	33.0	81	31.2	117	31.7
Writing comments on posts from friends or other people	18	16.5	35	13.5	53	14.4
Feelings when frequently accessing social media^a						
Experience eye or muscle fatigue	76	69.7	199	76.5	275	74.5
Feel easily distracted	23	21.1	101	38.8	124	33.6
Reduced interest in communicating offline	34	31.2	73	28.1	107	29.0
Loss or reduced interest in using social media	23	21.1	45	17.3	68	18.4
Impact of social media usage^a						
Affecting mood	74	67.9	196	75.4	270	73.2
Affecting sleep quality	62	56.9	159	61.2	221	59.9
Affecting the completion of tasks or other activities	52	47.7	168	64.6	220	59.6
Affecting view of oneself	51	46.8	147	56.5	198	53.7
Affecting the level of life satisfaction	36	33.0	93	35.8	129	35.0
Affecting the academic achievement	32	29.4	68	26.2	100	27.1
Actions when tired of using social media^a						
Stop using social media for a moment	87	79.8	215	82.7	302	81.8
Losing interest in using social media	22	20.2	54	20.8	76	20.6
Stop using social media for a long time	26	23.9	49	18.8	75	20.3
Continue to use social media	8	7.3	22	8.5	30	8.1
Physical parts compared to the same sex on social media^a						
Face (face shape and skin color)	47	43.1	151	58.1	198	53.7
Weight	30	27.5	128	49.2	158	42.8
Height	32	29.4	95	36.5	127	34.4
Hair	33	30.3	88	33.8	121	32.8
Midbody (waist and stomach)	18	16.5	86	33.1	104	28.2
Lower body (hips, buttocks, thighs, calves, and feet)	8	7.3	81	31.2	89	24.1
Upper body (chest, shoulders, and arms)	20	18.3	65	25.0	85	23.0
Muscle tone	35	32.1	20	7.7	55	14.9
None	13	11.9	6	2.3	19	5.1
Target of body comparison or physical appearance on social media^a						
Public figures	48	44.0	159	61.2	207	56.1
Friends	50	45.9	127	48.8	177	48.0
Strangers	33	30.3	88	33.8	121	32.8
Siblings	25	22.9	55	21.2	80	21.7
None	6	5.5	5	1.9	11	3.0
Feelings about body or physical appearance^a						
Happy	53	48.6	140	53.8	193	52.3

Table 6. (Continued)

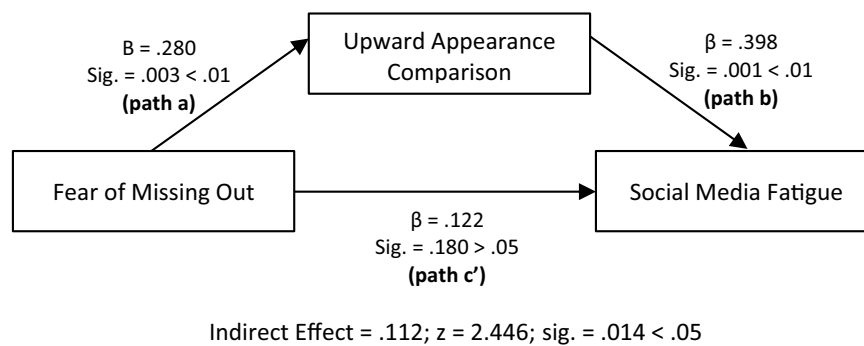
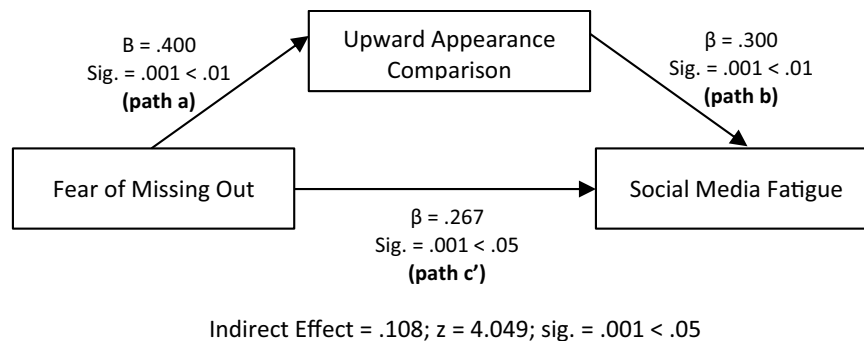
Participants responses	Male (N = 109)		Female (N = 260)		Total (N = 369)	
	f	%	f	%	f	%
Affectionate	36	33.0	130	50.0	166	45.0
Satisfied	39	35.8	87	33.5	126	34.1
Proud	43	39.4	82	31.5	125	33.9
Embarrassed	19	17.4	71	27.3	90	24.4
Disappointed	12	11.0	55	21.2	67	18.2
Grateful	6	5.5	20	7.7	26	7.0

^a Participants may choose more than one answer.

Table 7. Regression analysis and mediation analysis with a SOBEL test of FoMO in SMF with UAC as a mediator in male and female participants.

Variable	Male						Female					
	R ²	β	B	S.E.	t	Sig.	R ²	β	B	S.E.	t	Sig.
FoMO → UAC (path a)	0.079	0.280	0.287	0.094	3.019	0.003	0.079	0.400	0.287	0.053	7.005	0.001
UAC → SMF.FoMO (path b)	0.111	0.398	0.392	0.089	4.397	0.001	0.111	0.300	0.392	0.057	5.013	0.001
FoMO → SMF.UAC (path c')	0.028	0.122	0.123	0.091	1.349	0.180	0.028	0.267	0.123	0.054	4.458	0.001
FoMO → SMF (path c)	0.055	0.233	0.235	0.094	2.484	0.015	0.055	0.387	0.235	0.051	6.741	0.001
Variable	Value	S.E. indirect	t/z			Sig.	Value	S.E. indirect	t/z			Sig.
FoMO → UAC → SMF	0.112	0.045	2.446			0.014	0.108	0.026	4.049			0.001

FoMO = fear of missing out; UAC = upward appearance comparison; SMF = social media fatigue.

**Figure 2.** Model of social media fatigue in male participants. Indirect effect = 0.112; z = 2.446; sig. = 0.014 < 0.05.**Figure 3.** Model of social media fatigue in female participants. Indirect effect = 0.108; z = 4.049; sig. = 0.001 < 0.05.

and the United Kingdom (Murniasih, 2023; Tandon et al., 2021) as well as social media users with a wider age range (17–65 years) in Nigeria and the United States (Ashiru et al., 2022; Bright & Logan, 2018). For example, Tandon et al. (2021) reported that social media users who fear that their friends or acquaintances may have more rewarding experiences on social media tend to spend most of their time checking and

monitoring other people's social media profiles and often feel overwhelmed and stressed by the amount of information available on social media.

SMF is characterized by mental fatigue and a tendency to stay away from social media due to interacting too long on social media and being overwhelmed by the information received (Baj-Rogowska, 2023; Bright et al., 2015; Dhir et al., 2018; Ravindran et al., 2014). In line with these findings, the participants in this study reported that the activities that consume the most energy on social media are conducting personal chat communications with friends or other people, creating and producing content to share, and giving likes or reactions to posts from friends or other people. The wide spectrum of activities on social media, such as exchanging ideas, thoughts, and feelings in posts, giving likes, publishing photos, videos, and processing large amounts of information, can cause social media users to personally feel drained of energy and time, which contributes significantly to the occurrence of SMF (Baj-Rogowska, 2023). Users with high levels of social media fatigue are more prone to stop using social media or reduce their engagement levels on social media (Baj-Rogowska, 2023; Kim et al., 2024; Ravindran et al., 2014). Most participants in this study also reported that they would stop using social media for a while when they felt tired. Taking a short break from social networking activities is very necessary so that social media users can feel refreshed to continue normal activities (Ravindran et al., 2014).

FoMO is a psychological stressor that can cause SMF (Bright & Logan, 2018; Ou et al., 2023), which occurs because of social media users' fear of not having or being absent from valuable experiences gained by other people (Przybylski et al., 2013; Tandon et al., 2021). This is in accordance with the characteristics of the participants in this study, which shows that the things that participants most want to know from friends or other people on social media are receiving notifications or messages so that they do not miss important information, updates on activities being carried out by other people, and a trend that is currently being followed by other people. In addition, the reasons most research participants are active on social media include following new things on social media, staying connected with other people online, diverting attention from the problems they are facing, and updating their activities on social media.

Social media users with high FoMO tend to have negative moods and lower life satisfaction (Przybylski et al., 2013) and use social media compulsively, thus affecting sleep behavior, causing sleep problems (Tandon et al., 2020), and increasing SMF (Hattingh et al., 2022). The characteristics of the participants in this study showed that the majority of participants used social media daily for a duration of 3–<5 h to 5–<7 h during the last 6 months. The participants in this study also reported that social media use most often impacted mood, sleep quality, completion of tasks or other activities, and self-image. Apart from that, most participants also reported that frequent access to social media could cause eye or muscle fatigue and feelings of being easily distracted.

The results of this study also show that upward appearance comparison (UAC) can partially mediate the relationship between FoMO and SMF during emerging adulthood, meaning that FoMO can predict increasing SMF with or without the role of UAC. UAC is a comparison of appearance with other people who are considered to have a more attractive appearance (Brown & Tiggemann, 2016; Fox & Vendemia, 2016; Halliwell, 2012; O'Brien et al., 2009). These findings suggest that the fear of missing out on valuable experiences on social media may increase social media users' tendency to compare their appearance with other more attractive-looking users, which may further increase social media fatigue. In line with these findings, the characteristics of the participants in this study show that the things that participants most often search for on social media are uploaded photos or videos from peers and celebrities. In addition, public figures and friends are the figures on social media who are most often used as targets for body comparisons or physical appearance by participants.

The results of this study are in line with previous research findings regarding the relationships among FoMO, social comparison, and SMF (Jabeen et al., 2023; Murniasih, 2023; Tandon et al., 2021). For example, Tandon et al. (2021) found that social media users with high levels of FoMO showed a greater tendency to compare their social status, achievements, and life situations when browsing other people's social media profiles, so they may experience negative feelings or become tense and overwhelmed by the information provided. In line with these findings, most of the participants in this study also made appearance comparisons, namely, comparing the physical part of the face and body weight with those of the same gender on social media. There were even participants who felt embarrassed and disappointed with their bodies or physical appearance. Social media users who are prone to UAC feel the need to maintain or

exceed beauty standards set by others or want to obtain the same positive feedback as their competitors (for example, getting 'likes' on posted photos) and are therefore more likely to feel negative about their bodies when looking at photos of other people's attractive appearances (Fox & Vendemia, 2016). The higher the comparison of physical appearance on social media can also predict the decreasing perception of self-attractiveness (Ozimek et al., 2023). These various findings show that the tendency for higher UAC when using social media will lead to negative feelings about the body or physical appearance, which can further increase the occurrence of SMF.

This study also aimed to examine the pattern of relationships between FoMO, UAC, and SMF in male and female participants in emerging adulthood. The results of this study show that there are differences in the role of UAC as a mediator for male and female participants. UAC acts as a full mediator between FoMO and SMF in male participants, thus supporting H4 but not supporting H3 in this study. This finding shows that FoMO can predict the occurrence of SMF only if it encourages male participants to make upward appearance comparisons more often on social media, but FoMO cannot directly predict an increase in SMF. In female participants, UAC acts as a partial mediator so that FoMO can directly predict increased SMF and simultaneously increase the tendency to compare appearance with more attractive figures on social media, which in turn can trigger the occurrence of SMF. These findings support H5 and H6 in this study.

The difference in relationship patterns is likely caused by the significant differences in SMF and UAC between male and female participants in this study. In line with previous research in India, Kuwait, Korea, the United States, and the United Kingdom (Adhikari & Panda, 2019; Al-Shatti et al., 2022; Choi & Mahoney, 2020; Tandon et al., 2021), the female participants in this study experienced fatigue due to social media use at a higher rate than male participants. Participant characteristics based on gender show that more female participants use social media for a longer duration, namely, 7–9 h to more than 9 h per day, compared to male participants, so they are more at risk of experiencing fatigue. Female participants also perform more energy-consuming activities on social media than male participants, such as having personal chat communications with friends or other people and creating and producing content to share. This finding is in line with previous research showing that, compared to men, women put more effort into creating a socially desirable physical appearance by editing photos on social media (Fox & Vendemia, 2016). In addition, research on Instagram users in Kuwait found that women experience social media fatigue at a higher rate than men because women tend to be more sensitive to impression management on social media and worry more about judgments from others (Al-Shatti et al., 2022).

Female participants in this study also performed UAC on social media at a significantly higher rate than male participants. This finding is in line with previous research in the United States (Fox & Vendemia, 2016; Franzoi et al., 2012). For example, Franzoi et al. (2012) found that women more often than men compared their faces and bodies with other same-gender targets perceived to have subjectively better physical qualities than themselves. In accordance with these findings, the characteristics of the participants based on gender showed that female participants made more comparisons of appearance with the same gender on social media in almost all physical parts, especially in the lower body (hips, buttocks, thighs, calves, feet), body weight, midsection (waist, stomach), and face (face shape and skin color), compared to male participants.

Men make more downward comparisons than upward comparisons, while women make far more upward comparisons than downward comparisons, so that women show a greater tendency to compare their appearance with unrealistic and threatening targets, for example, models and celebrities, than men (Halliwell, 2012; Strahan et al., 2006). The characteristics of the participants in this study showed that female participants were more likely to look for uploaded photos or videos from celebrities and compare their bodies or physical appearance on social media with public figures, compared to male participants. UAC also has different negative impacts when viewed based on gender. For example, Fox and Vendemia (2016) found that women were more likely than men to feel negative about their bodies when they viewed attractive photos of others, possibly because of societal pressures related to women's appearance. In line with these findings, the characteristics of the participants based on gender showed that although more female participants felt affectionate and happy with their body or physical appearance than male participants, more female participants also felt embarrassed and disappointed, and fewer felt proud and satisfied with their body or physical appearance compared to male participants. Women's high UAC tendencies cause them to rely more on self-critical comparison strategies when evaluating their physical appearance, thereby negatively affecting their self-esteem (Franzoi et al., 2012).

This research also found that FoMO in female participants can directly predict increased SMF, while FoMO in male participants does not play a significant direct role in SMF. Although the FoMO of the female and male participants in this study was not significantly different, the characteristics of the participants based on gender showed that more female participants were active on social media to update their activities on social media, diverted their attention from the problems they faced, followed new things on social media, and stayed connected with other people online than male participants. This may be influenced by the differences in social media platforms used by female and male participants in the last 6 months. Most female and male participants use Instagram social media, but more female participants use TikTok and X (Twitter) social media than male participants.

TikTok is currently the most popular social media platform for short video content compared to Instagram and YouTube because this platform is superior in providing content that suits user tastes and preferences (Bullas, 2023). TikTok feed is a scrolling loop that encourages users to mindlessly binge-watch content (Peterson, 2024). Research on male and female TikTok users shows that information and communication overload due to the use of short video applications causes increased emotional exhaustion, which in turn reduces intentions to continue using it (Huang et al., 2023). Social media users tend to spend more time on TikTok (approximately 52 minutes per day) than on Instagram (approximately 28 minutes per day) because TikTok shows one video at a time, so people tend to watch the entire video and increase the number of views shown (Bostic, 2022). On average, the user spends as much time on TikTok every day as the average feature film (Stokel-Walker, 2023).

X (Twitter) is a social media platform that is predominantly text-based, while Instagram, TikTok, and YouTube are social media platforms that are predominantly image-based. Previous research has shown that information overload for image-based and text-based social media users has relatively the same influence on social media fatigue (Kim et al., 2024). FoMO can lead to information overload and the compulsive use of social media, which contributes to SMF (Hattingh et al., 2022). The time investment that users dedicate to engaging with social media platforms (time cost) is also a strong cause of SMF (Baj-Rogowska, 2023; Kim et al., 2024).

Limitations and future research

Through the use of open-ended questions, this study successfully gathered extensive information from participants, leading to a more thorough comprehension of the three research variables. Upward appearance comparison, which is rarely covered in SMF research, was also included in this study. However, this study has limitations in research design and gender sampling. This study utilized a cross-sectional methodology, which means that the data were collected just once, so it cannot explain the causal relationships or variations in SMF over time. Further research could employ a longitudinal design to examine causal relationships and changes or developments in SMF among the same participants over time, for example, over a 3- or 6-month period.

Regarding gender, the imbalance of participants in this study, namely, more female than male participants, resulted in fewer perspectives or experiences of male participants when social media was used. Additionally, the questionnaire in this study offered limited options for gender, specifically male and female. We did not provide options that included transgender, agender, gender queer, gender fluid, etc., so there was no broader gender representation regarding the relationship patterns of FoMO, UAC, and SMF to be analyzed. Therefore, we recognize that not including other gender identities may limit the diversity of findings in this research area. Future research could explore the same phenomenon more inclusively by including emerging adults who identify as transgender, agender, gender queer, or gender fluid so that the findings of this study can be more comprehensive.

Practical implications

These findings have significant practical implications for preventing and managing social media fatigue (SMF) in emerging adulthood. Specifically, the findings show that fear of missing out (FoMO) is a significant

factor in developing social media fatigue, both directly and indirectly via upward appearance comparison (UAC). As a result, various practical ramifications exist, particularly for mental health practitioners, educators, parents, and social media platform developers. These findings can help mental health professionals—like psychologists and counsellors—create intervention plans focused on reducing FoMO and the tendency to engage in UAC. Training in emotion management, raising self-awareness, and cultivating a healthy body image are some potential strategies to lessen the negative effects of excessive social media use.

Educational institutions and young adult training providers must encourage digital literacy by emphasizing both technical capabilities and the psychological effects of social media use. This type of education can help individuals recognize the negative impacts of FoMO and UAC and develop healthier and more reflective social media usage patterns. The findings of this study can help social media platform developers create more mental health-friendly features, for example, by limiting exposure to content that triggers unrealistic appearance comparisons, such as algorithms that excessively display posts with idealized appearances, providing notifications about healthy time management, or features that encourage self-reflection on social media habits.

Support from the social environment, such as family and peers, is also an important aspect that needs to be strengthened. Parents and peers play an important role in assisting emerging adults to develop a healthy body image and avoid relying on social media validation. Educating parents and the community on the psychological effects of FoMO and UAC can help foster a social climate that promotes digital balance and mental wellness. Student service centers on campuses and human resources departments in workplaces, which are predominantly staffed by individuals in emerging adulthood, can use these findings to develop mental health promotion programs that incorporate digital aspects. Counselling services, stress management training, and awareness campaigns on balance in social media use can be developed more contextually.

The findings of this study also provide significant practical implications for the prevention and management of SMF in individuals in emerging adulthood by considering gender differences. For male participants, the findings revealed that FoMO had an impact on SMF only if it drove them to participate in extensive UAC on social media. These data suggest the need for more specific interventions to address UAC tendencies among men, particularly in response to social media pressure. Educational and therapeutic approaches that focus on awareness of appearance comparison mechanisms and reinterpretation of self-worth may help reduce the influence of FoMO and avoid SMF.

Findings in female participants indicate that women in emerging adulthood tend to experience SMF due to both the fear of missing out and the intensity of comparing appearances on social media. These findings highlight the importance of a more comprehensive intervention approach for women, which should include education on healthy time management in social media use, as women tend to use social media for longer periods than men; training to develop a positive body image; and strategies for managing emotions and stress caused by appearance comparisons in social media since women are more likely than men to engage in UAC on social media.

These findings have significant implications for psychologists, educational counsellors, and organizations that work with emerging adults to establish gender-based digital literacy programs. Programs for digital literacy should consider how men and women respond to social media pressures, particularly FoMO and UAC. With a customized approach, healthy social media use strategies are thought to be more effective in maintaining young people's mental health in the digital era.

Conclusions

The findings of this study underscore the importance of addressing both FoMO and upward appearance comparison (UAC) in preventing social media fatigue (SMF) among emerging adults. Mental health practitioners, educators, platform developers, and families play vital roles in promoting healthier social media engagement. Moreover, gender-sensitive approaches are essential to ensure that digital literacy and psychological interventions are tailored effectively to the different ways men and women experience social media pressures.

Informed consent

Informed consent was obtained from all individual participants included in the study.

Author contributions

None.

Disclosure statement


No potential conflict of interest was reported by the author(s). We used QuillBot v36.10.3 and ChatGPT-5 to correct and refine parts of the manuscript, especially in the Limitations and Future Research and Practical Implications sections.


Funding

This study was funded by the Institute for Research and Community Service (LPPM) Universitas Surabaya, Funder ID: Awards/Grant number: 144/ST-Lit/LPPM-01/FP/XI/2023.

ORCID

Yolanda Jaya  0009-0008-8581-3727

Monique Elizabeth Sukamto  0000-0001-6693-2159

Made Ayudhyastiti Savita Putri  0009-0002-5640-8593

Data availability statement

All the data and supportive information are provided within the article.

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of institutional and/or research committees and with the 1975 Declaration of Helsinki, as revised in 2013. This research was approved by the University of Surabaya Ethics Committee (Ethical code No: 237a/KE/X/2023 and approval date: October 9, 2023).

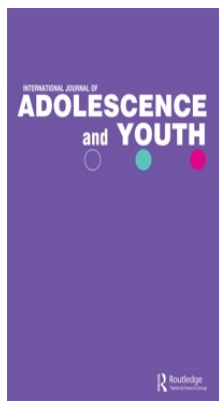
References

- Adhikari, K., & Panda, R. K. (2019). Examining the role of social networking fatigue toward discontinuance intention: The multigroup effects of gender and age. *Journal of Internet Commerce*, 19(2), 125–152. <https://doi.org/10.1080/15332861.2019.1698265>
- Al-Shatti, E., Ohana, M., Odou, P., & Zaitouni, M. (2022). Impression management on Instagram and unethical behavior: The role of gender and social media fatigue. *International Journal of Environmental Research and Public Health*, 19(16), 9808. <https://doi.org/10.3390/ijerph19169808>
- Anixiadis, F., Wertheim, E. H., Rodgers, R., & Caruana, B. (2019). Effects of thin-ideal Instagram images: The roles of appearance comparisons, internalization of the thin ideal and critical media processing. *Body Image*, 31, 181–190. <https://doi.org/10.1016/j.bodyim.2019.10.005>
- Annur, C. M. (2024). *Ini media sosial paling banyak digunakan di Indonesia awal 2024*. Katadata. <https://databoks.katadata.co.id/datapublish/2024/03/01/ini-media-sosial-paling-banyak-digunakan-di-indonesia-awal-2024>
- Arnett, J. J. (2018). *Adolescence and emerging adulthood: A cultural approach* (6th ed). Pearson Education, Inc.
- Ashiru, J., Oluwajana, D., & Biabor, O. S. (2022). Is the global pandemic driving me crazy? The relationship between personality traits, fear of missing out, and social media fatigue during the COVID-19 pandemic in Nigeria. *International Journal of Mental Health and Addiction*, 21(4), 2309–2324. <https://doi.org/10.1007/s11469-021-00723-8>
- Baccarella, C. V., Wagner, T. F., Kietzmann, J. H., & McCarthy, I. P. (2018). Social media? It's serious! Understanding the dark side of social media. *European Management Journal*, 36(4), 431–438. <https://doi.org/10.1016/j.emj.2018.07.002>

- Bailey, S. D., & Ricciardelli, L. A. (2010). Social comparisons, appearance-related comments, contingent self-esteem and their relationships with body dissatisfaction and eating disturbance among women. *Eating Behaviors*, 11(2), 107–112. <https://doi.org/10.1016/j.eatbeh.2009.12.001>
- Baj-Rogowska, A. (2023). Antecedents and outcomes of social media fatigue. *Information Technology and People*, 36(8), 226–254. <https://doi.org/10.1108/ITP-03-2022-0207>
- Bostic, C. (2022). *Instagram Vs. TikTok: Embracing the new age of social media*. Ironmark. <https://blog.ironmarkusa.com/instagram-vs-tiktok>
- Brailovskaia, J., Ozimek, P., Rohmann, E., & Bierhoff, H.-W. (2023). Vulnerable narcissism, fear of missing out (FoMO) and addictive social media use: A gender comparison from Germany. *Computers in Human Behavior*, 144, 107725. <https://doi.org/10.1016/j.chb.2023.107725>
- Bright, L. F., & Logan, K. (2018). Is my fear of missing out (FOMO) causing fatigue? Advertising, social media fatigue, and the implications for consumers and brands. *Internet Research*, 28(5), 1213–1227. <https://doi.org/10.1108/IntR-03-2017-0112>
- Bright, L. F., Kleiser, S. B., & Grau, S. L. (2015). Too much Facebook? An exploratory examination of social media fatigue. *Computers in Human Behavior*, 44, 148–155. <https://doi.org/10.1016/j.chb.2014.11.048>
- Brown, Z., & Tiggemann, M. (2016). Attractive celebrity and peer images on Instagram: Effect on women's mood and body image. *Body Image*, 19, 37–43. <https://doi.org/10.1016/j.bodyim.2016.08.007>
- Bullas, A. (2023). *The battle of the short-form video platforms: YouTube Shorts vs TikTok vs Instagram Reels*. Opace. <https://www.opace.co.uk/blog/short-form-video-platforms-youtube-shorts-vs-tiktok-vs-instagram>
- Cao, X., Khan, A. N., Zaigham, G. H. K., & Khan, N. A. (2019). The stimulators of social media fatigue among students: Role of moral disengagement. *Journal of Educational Computing Research*, 57(5), 1083–1107. <https://doi.org/10.1177/0735633118781907>
- Choi, C., & Mahoney, T. (2020). Social networking service fatigue and cessation: Focusing on cultural and gender differences. *The Journal of the Korea Contents Association*, 20(7), 547–559. <https://doi.org/10.5392/JKCA.2020.20.07.547>
- Dhir, A., Kaur, P., Chen, S., & Pallesen, S. (2019). Antecedents and consequences of social media fatigue. *International Journal of Information Management*, 48, 193–202. <https://doi.org/10.1016/j.ijinfomgt.2019.05.021>
- Dhir, A., Talwar, S., Kaur, P., Budhiraja, S., & Islam, N. (2021). The dark side of social media: Stalking, online self-disclosure and problematic sleep. *International Journal of Consumer Studies*, 45(6), 1373–1391. <https://doi.org/10.1111/ijcs.12659>
- Dhir, A., Yossatorn, Y., Kaur, P., & Chen, S. (2018). Online social media fatigue and psychological wellbeing—a study of compulsive use, fear of missing out, fatigue, anxiety and depression. *International Journal of Information Management*, 40, 141–152. <https://doi.org/10.1016/j.ijinfomgt.2018.01.012>
- Dittmar, H., & Howard, S. (2004). Thin-ideal internalization and social comparison tendency as moderators of media models' impact on women's body-focused anxiety. *Journal of Social and Clinical Psychology*, 23(6), 768–791. <https://doi.org/10.1521/jscp.23.6.768.54799>
- Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. *Body Image*, 13, 38–45. <https://doi.org/10.1016/j.bodyim.2014.12.002>
- Fardouly, J., Pinkus, R. T., & Vartanian, L. R. (2017). The impact of appearance comparisons made through social media, traditional media, and in person in women's everyday lives. *Body Image*, 20, 31–39. <https://doi.org/10.1016/j.bodyim.2016.11.002>
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117–140. <https://doi.org/10.1177/001872675400700202>
- Fox, J., & Vendemia, M. A. (2016). Selective self-presentation and social comparison through photographs on social networking sites. *Cyberpsychology, Behavior, and Social Networking*, 19(10), 593–600. <https://doi.org/10.1089/cyber.2016.0248>
- Franzoi, S. L., Vasquez, K., Sparapani, E., Frost, K., Martin, J., & Aebly, M. (2012). Exploring body comparison tendencies: Women are self-critical whereas men are self-hopeful. *Psychology of Women Quarterly*, 36(1), 99–109. <https://doi.org/10.1177/0361684311427028>
- Haferkamp, N., & Krämer, N. C. (2011). Social comparison 2.0: Examining the effects of online profiles on social-networking sites. *Cyberpsychology, Behavior, and Social Networking*, 14(5), 309–314. <https://doi.org/10.1089/cyber.2010.0120>
- Halliwell, E. (2012). Social comparison theory and body image. In T. F. Cash (Ed.), *Encyclopedia of Body Image and Human Appearance* (Vol. 2, pp. 751–757). Elsevier. <https://doi.org/10.1016/B978-0-12-384925-0.00119-X>
- Hattingh, M., Dhir, A., Ractham, P., Ferraris, A., & Yahiaoui, D. (2022). Factors mediating social media-induced fear of missing out (FoMO) and social media fatigue: A comparative study among Instagram and Snapchat users. *Technological Forecasting and Social Change*, 185, 122099. <https://doi.org/10.1016/j.techfore.2022.122099>
- Huang, L., Dong, X., Yuan, H., & Wang, L. (2023). Enabling and inhibiting factors of the continuous use of mobile short video APP: Satisfaction and fatigue as mediating variables respectively. *Psychology Research and Behavior Management*, 16, 3001–3017. <https://doi.org/10.2147/PRBM.S411337>
- Islam, A. K. M. N., Laato, S., Talukder, S., & Sutinen, E. (2020). Misinformation sharing and social media fatigue during COVID-19: An affordance and cognitive load perspective. *Technological Forecasting and Social Change*, 159(July), 120201. <https://doi.org/10.1016/j.techfore.2020.120201>

- Jabeen, F., Tandon, A., Sithipolvanichgul, J., Srivastava, S., & Dhir, A. (2023). Social media-induced fear of missing out (FoMO) and social media fatigue: The role of narcissism, comparison and disclosure. *Journal of Business Research*, 159(February), 113693. <https://doi.org/10.1016/j.jbusres.2023.113693>
- Kardefelt-Winther, D. (2014). A conceptual and methodological critique of internet addiction research: Towards a model of compensatory internet use. *Computers in Human Behavior*, 31(1), 351–354. <https://doi.org/10.1016/j.chb.2013.10.059>
- Kim, S., Ma, I., & Son, J. (2024). How does stress experienced on Instagram differ from threads? Comparing social media fatigue based on platform types. *Computers in Human Behavior*, 157(March), 108249. <https://doi.org/10.1016/j.chb.2024.108249>
- Kurniawan, K., Nur'aeni, Y., Mujahidah, S. A., Nugraha, P., Zahra, S., & Aquino, A. (2023). Social media fatigue management among adolescents: Rapid review. *Jurnal Kesehatan Pasak Bumi Kalimantan*, 6(1), 1. <https://doi.org/10.30872/j.kes.pasmi.kal.v6i1.8566>
- Lang, A. (2000). The limited capacity model of mediated message processing. *Journal of Communication*, 50(1), 46–70. <https://doi.org/10.1111/j.1460-2466.2000.tb02833.x>
- Lee, C.-C., Chou, S. T.-H., & Huang, Y.-R. (2014). A study on personality traits and social media fatigue-example of Facebook users. *Lecture Notes on Information Theory*, 2(3), 249–253. <https://doi.org/10.12720/lnit.2.3.249-253>
- Logan, K., Bright, L. F., & Grau, S. L. (2018). Unfriend me, please!: Social media fatigue and the theory of rational choice. *Journal of Marketing Theory and Practice*, 26(4), 357–367. <https://doi.org/10.1080/10696679.2018.1488219>
- Malik, A., Dhir, A., Kaur, P., & Johri, A. (2020). Correlates of social media fatigue and academic performance decrement. *Information Technology People*, 34(2), 557–580. <https://doi.org/10.1108/ITP-06-2019-0289>
- Murniasih, F. (2023). Sisi gelap media sosial: Mediasi perbandingan sosial pada hubungan fear of missing out dan social media fatigue. *Jurnal Diversita*, 9(1), 93–103. <https://doi.org/10.31289/diversita.v9i1.8899>
- Myers, T. A., & Crowther, J. H. (2009). Social comparison as a predictor of body dissatisfaction: A meta-analytic review. *Journal of Abnormal Psychology*, 118(4), 683–698. <https://doi.org/10.1037/a0016763>
- NapoleonCat. (2024). *Instagram users in Indonesia*. <https://NapoleonCat.com/stats/instagram-users-in-indonesia/2023/12/>
- Naudé, L. (2022). Protecting my positivity: Emerging adults as social media actors, agents, and authors. *Emerging Adulthood*, 10(6), 1332–1344. <https://doi.org/10.1177/21676968221121379>
- Neuman, W. L. (2014). *Social research methods: Qualitative and quantitative approaches* (7th ed). Pearson Education Limited.
- O'Brien, K. S., Caputi, P., Minto, R., Peoples, G., Hooper, C., Kell, S., & Sawley, E. (2009). Upward and downward physical appearance comparisons: Development of scales and examination of predictive qualities. *Body Image*, 6(3), 201–206. <https://doi.org/10.1016/j.bodyim.2009.03.003>
- Ou, M., Zheng, H., Kim, H. K., & Chen, X. (2023). A meta-analysis of social media fatigue: Drivers and a major consequence. *Computers in Human Behavior*, 140, 107597. <https://doi.org/10.1016/j.chb.2022.107597>
- Ozimek, P., Lainas, S., Bierhoff, H. W., & Rohmann, E. (2023). How photo editing in social media shapes self-perceived attractiveness and self-esteem via self-objectification and physical appearance comparisons. *BMC Psychology*, 11(1), 1–14. <https://doi.org/10.1186/s40359-023-01143-0>
- Padilla-Walker, L. M., & Nelson, L. J. (Eds.). (2017). Flourishing in emerging adulthood: An understudied approach to the third decade of life. In *Flourishing in emerging adulthood* (pp. 3–13). Oxford University Press.
- Peterson, J. (2024). *TikTok vs. YouTube: Which platform is right for you*. Artlist. <https://artlist.io/blog/tiktok-vs-youtube/>
- Przybylski, A. K., Murayama, K., Dehaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, 29(4), 1841–1848. <https://doi.org/10.1016/j.chb.2013.02.014>
- Putri, L. S., Purnama, D. H., & Idi, A. (2019). Gaya hidup mahasiswa pengidap fear of missing out di kota palembang. *Jurnal Masyarakat Budaya*, 21(2), 129–148. <https://jmb.lipi.go.id/jmb/article/view/867>
- Ravindran, T., Yeow Kuan, A. C., & Hoe Lian, D. G. (2014). Antecedents and effects of social network fatigue. *Journal of the Association for Information Science and Technology*, 65(11), 2306–2320. <https://doi.org/10.1002/asi.23122>
- Rozgonjuk, D., Sindermann, C., Elhai, J. D., & Montag, C. (2021). Individual differences in fear of missing out (FoMO): Age, gender, and the big five personality trait domains, facets, and items. *Personality and Individual Differences*, 171, 110546. <https://doi.org/10.1016/j.paid.2020.110546>
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. The Guilford Press. <https://www.guilford.com/excerpts/Ryan.pdf>
- Santrock, J. W. (2019). *Life-span Development* (17th ed). McGraw-Hill Education.
- Servidio, R., Soraci, P., Griffiths, M. D., Boca, S., & Demetrovics, Z. (2024). Fear of missing out and problematic social media use: A serial mediation model of social comparison and self-esteem. *Addictive Behaviors Reports*, 19(March), 100536. <https://doi.org/10.1016/j.abrep.2024.100536>
- Shen, Y., Zhang, S., & Xin, T. (2020). Extrinsic academic motivation and social media fatigue: Fear of missing out and problematic social media use as mediators. *Current Psychology*, 41(10), 7125–7131. <https://doi.org/10.1007/s12144-020-01219-9>
- Stokel-Walker, C. (2023). *How TikTok beat Instagram*. Businessinsider. <https://www.businessinsider.com/why-instagram-cant-compete-tiktok-videos-algorithm-influencers-engagement-2023-2>
- Strahan, E. J., Wilson, A. E., Cressman, K. E., & Buote, V. M. (2006). Comparing to perfection: How cultural norms for appearance affect social comparisons and self-image. *Body Image*, 3(3), 211–227. <https://doi.org/10.1016/j.bodyim.2006.07.004>

- Sukanto, M. E. (2020). *Pengembangan model perilaku mengendalikan berat badan yang tidak sehat pada remaja perempuan* [(Unpublished doctoral dissertation]. Surabaya: Universitas Airlangga.
- Sunil, S., Sharma, M. K., Amudhan, S., Anand, N., & John, N. (2022). Social media fatigue: Causes and concerns. *International Journal of Social Psychiatry*, 68(3), 686–692. <https://doi.org/10.1177/00207640221074800>
- Talwar, S., Dhir, A., Kaur, P., Zafar, N., & Alrasheedy, M. (2019). Why do people share fake news? Associations between the dark side of social media use and fake news sharing behavior. *Journal of Retailing and Consumer Services*, 51(February), 72–82. <https://doi.org/10.1016/j.jretconser.2019.05.026>
- Tandon, A., Dhir, A., Talwar, S., Kaur, P., & Mäntymäki, M. (2021). Dark consequences of social media-induced fear of missing out (FoMO): Social media stalking, comparisons, and fatigue. *Technological Forecasting and Social Change*, 171(June), 120931. <https://doi.org/10.1016/j.techfore.2021.120931>
- Tandon, A., Kaur, P., Dhir, A., & Mäntymäki, M. (2020). Sleepless due to social media? Investigating problematic sleep due to social media and social media sleep hygiene. *Computers in Human Behavior*, 113, 1–12. <https://doi.org/10.1016/j.chb.2020.106487>
- Tiggemann, M., & Miller, J. (2010). The internet and adolescent girls' weight satisfaction and drive for thinness. *Sex Roles*, 63(1–2), 79–90. <https://doi.org/10.1007/s11199-010-9789-z>
- Tiggemann, M., & Zaccardo, M. (2015). Exercise to be fit, not skinny: The effect of fitspiration imagery on women's body image. *Body Image*, 15, 61–67. <https://doi.org/10.1016/j.bodyim.2015.06.003>
- Whelan, E., Islam, N. A. K. M., & Brooks, S. (2020). Is boredom proneness related to social media overload and fatigue? A stress–strain–outcome approach. *Internet Research*, 30(3), 869–887. <https://doi.org/10.1108/INTR-03-2019-0112>
- Xie, X., Jin, G., & Bai, Q. (2024). Dealing with unnecessary: The mediation role of social overload on fear of missing out and social media fatigue. *SAGE Open*, 14(3), 1–14. <https://doi.org/10.1177/21582440241266358>
- Zhang, S., Shen, Y., Xin, T., Sun, H., Wang, Y., Zhang, X., & Ren, S. (2021). The development and validation of a social media fatigue scale: From a cognitive-behavioral- emotional perspective. *PLoS One*, 16, 1–16. <https://doi.org/10.1371/journal.pone.0245464>
- Zhang, Y., He, W., & Peng, L. (2020). How perceived pressure affects users' social media fatigue behavior: A case on WeChat. *Journal of Computer Information Systems*, 62, 1–12. <https://doi.org/10.1080/08874417.2020.1824596>
- Zheng, H., & Ling, R. (2021). Drivers of social media fatigue: A systematic review. *Telematics and Informatics*, 64, 101696. <https://doi.org/10.1016/j.tele.2021.101696>

[Home](#) ▶ [All Journals](#) ▶ [Behavioral Sciences](#) ▶ [International Journal of Adolescence and Youth](#)

International Journal of Adolescence and Youth

[Share](#)

An open access journal

Indexed in Scopus, Educational Research Abstracts, PsycINFO, and the Directory of Open Access Journals (DOAJ), this open access journal publishes research examining adolescents and youth across international contexts.

[Submit an article](#)
▼[About this journal](#)[Browse all articles & issues](#)
▼[Follow this journal](#)
▼

Journal overview

Aims and scope	
Journal metrics >	Editorial board >
Instructions for authors >	
<p><i>International Journal of Adolescence and Youth</i> is a peer-reviewed open access journal that publishes on adolescents and youth across international contexts. The journal aims to identify, examine and compare issues, problems, and policies related to adolescents and youth throughout the world. The journal is of interest to</p> <p>Read full aims and scope</p>	

Explore articles

Latest	Most read	Most cited	Trending
------------------------	---------------------------	----------------------------	--------------------------

Jump to section

- Aims and scope
- Journal metrics
- Editorial board
- Abstracting and indexing
- Open access
- News and calls for papers
- Publication details
- Advertising information

Editorial board

Editor

Prof. Peter Appelbaum - Arcadia University, USA

Associate Editor

Dr Tatiana Ogourtsova - McGill University, Canada

Editorial Board

Dr Roya Abbasi-Asl - Tufts University, USA
Associate Prof. Joshua Amo-Adjei - University of Cape Coast, Ghana
Dr Adote Anum - University of Ghana, Ghana
Dr Fiona S. Baker - United Arab Emirates University, UAE
Dr Kristina Berglund - University of Gothenburg, Sweden
Dr Iman Amy Betawi - University of Jordan, Jordan
Prof Sandra Bosacki - Brock University, Canada
Associate Prof. Karin Boson - University of Inland Norway, Norway
Dr Simon Bradford - School of Social Sciences, Brunel University, London, UK
Prof. Joanne Bryant - UNSW Sydney, Australia
Dr Gabe Caluzzi - La Trobe University, Australia
Dr Chau-kiu Cheung - Department of Applied Social Studies, City University of Hong Kong, Hong Kong

Jump to section

- Aims and scope
- Journal metrics
- Editorial board
- Abstracting and indexing
- Open access
- News and calls for papers
- Publication details
- Advertising information

Prof. Diana D. Coyle - College of Behavioural and Social Sciences, California State University, California
Dr Alejandra Cortés-Pascual - University of Zaragoza, Spain
Dr Natisha Dukhi - Human Sciences Research Council, South Africa
Dr Pieter van den Eeden - Erasmus University Rotterdam, the Netherlands
Prof. Karen Evans - UCL Institute of Education, London, UK
Prof. Harry Freeman - University of South Dakota, USA
Prof. Philip Garner - Brunel University, UK
Associate Prof Marcin Gierczyk - University of Silesia, Poland
Associate Prof Diego Gomez-Baya - University of Huelva, Spain
Dr Andrew Green - School of Sport and Education, Brunel University, London, UK
Associate Prof. Jessica Hemberg- Åbo Akademi, University, Finland
Prof. Klaus Hurrelmann - Hertie School of Governance, Berlin, Germany
Dr Toshio Kanaya - National Institute for Educational Research, Japan
Prof. Honggang Liu - Soochow University, China
Assist. Prof. Geeta Ludhra - Education Department, Brunel University, London, UK
Prof Jacobus Maree - University of Pretoria, South Africa
Dr William D. Marelich - Dept. of Psychology, California State University, Fullerton, USA
Prof. Roy McConkey - University of Ulster, Northern Ireland, UK
Prof. Dave Miranda - School of Psychology of the University of Ottawa, Canada
Dr Helena Miettunen - Oulu, Finland
Dr Almudena Moreno Minguez - University of Valladolid, Spain

Jump to section

- Aims and scope
- Journal metrics
- Editorial board
- Abstracting and indexing
- Open access
- News and calls for papers
- Publication details
- Advertising information

Professor Yoon Nah - Yonsei University, South Korea
Asst. Prof. Hülya Gülay Ogelman - Pamukkale University, Turkey
Prof Hua Pang - Tianjin University, China
Prof Jace Pillay - University of Johannesburg, South Africa
Prof. Ian Rivers - University of Strathclyde, UK
Prof. Dr Chrissie Rogers - University of Kent, UK
Associate Prof. Daniel G Séguin - Department of Psychology , Mount Saint Vincent University, Canada
Dr Sarita Sahay - Monash University, Australia
Dr Steven Sek-yum Ngai - the Chinese University of Hong Kong, Hong Kong
Dr Konstantina Rentzou - University of Ioannina, Greece
Dr Cathy Tissot - University of Reading, Reading, UK
Dr Sotiria Tzivinikou - University of Thessaly, Volos, Greece
Dr Catherine Wilkinson - Liverpool John Moores University, UK
Dr William Xu - SOAS, London, UK
Dr Kam-shing Yip - Hong Kong Polytechnic University, Hong Kong



International Journal of Adolescence and Youth, Volume 30, Issue 1 (2025)

Subscribe to updates


Stay informed when new research is published in this journal

 New content alerts

[See all volumes and issues](#)

 Share

	Volume 30, 2025	Vol 29, 2024	Vol 2 
---	-----------------	--------------	---

 Issue 1 
▼



Browse by section (All)



Display order (Default)



 Download citations

 Download PDFs

Issue In Progress

Review Article



Review Article

Indigenous youth engagement in research: a scoping review of community-based participatory action research (CBPAR) in Canada and the USA >

Carolyn M. Melro, Amy Bombay, Margaret Robinson, Debbie Martin, Kira Bombay & Lisa S. Hackett

Article: 2435264

Published online: 12 Dec 2024

2981	3	0
Views	CrossRef citations	Altmetric



Review Article

Mass incarceration and the school-to-prison pipeline: the intergenerational transmission of criminalization >

Emma K. Tynan & Mark R. Warren

Article: 2435270

Published online: 12 Jan 2025

11873	1	42
Views	CrossRef citations	Altmetric



Research Articles



Article

Mirror, mirror, on my (social media) wall, who's the prettiest of them all? A serial mediation approach of the factors underlying adolescents' acceptance of cosmetic surgery >

Alexandra Maftai, Cristian Opariuc-Dan & Ioan-Alex Merlici

Article: 2436055

Published online: 26 Dec 2024

2757	2	0
Views	CrossRef citations	Altmetric



Article

Discrimination, minority group endorsement and paranoia in adolescents: the moderating role of loneliness >

Lyn Ellett, Katarina Krkovic, Brandon Gaudiano, Elizabeth Thompson & Jessica Kingston

Article: 2437029

Published online: 13 Dec 2024

1297	0	
Views	CrossRef citations	Altmetric



Research Article



Article

Exploring the role of stress as a mediator between multidimensional poverty, food insecurity, and alcohol dependency among the tribal male adolescents: a study in the Dooars region >

Partha Das & Tamal Basu Roy

Article: 2439901

Published online: 20 Dec 2024

734	0	
Views	CrossRef citations	Altmetric



Article

Young people's affective-sexual education: the gap between the 'affective' and the 'sexual' dimensions in formal and non-formal/informal educational settings >

Maddalena Fedele, Juan-José Boté-Vericad, Carolina Martín-Piñol & Concha Fuentes Moreno

Article: 2441308

Published online: 15 Dec 2024

2525	2	
Views	CrossRef citations	Altmetric



Article

Addressing stigma and discrimination towards school re-entry of teenage mothers in Ghana >

Anthony Kwame Morgan, Prisca Ama Anima, Bernice Wadei & Daniel Katey

Article: 2441322

Published online: 02 Jan 2025

From achievement to flourishing: a phenomenological study of outstanding students' lived experiences in Indonesian higher education >

Dewi Retno Suminar, Faizah Faizah, Nono Hery Yoenanto & Heri Prayitno

Article: 2593046

Published online: 02 Dec 2025

115

Views

0

CrossRef citations

Altmetric



Article

'The mediation role of transactional learning: the relationship between students' perceived lecturer competency, learning readiness, and academic resilience' >

Dian Veronika Sakti Kaloeti, Galang Lufityanto, Marina Baroni & Mirko Duradoni

Article: 2596657

Published online: 07 Dec 2025

60

Views

0

CrossRef citations

Altmetric



Article

Prevalence and social determinants of adolescent depression in an unequal urban setting in Latin America >

Jaime Andrés Benavides Morales, Rodrigo Lopez Santander & Lina Maria Rengifo Montenegro

Article: 2596660

Published online: 07 Dec 2025

105

Views

0

CrossRef citations

Altmetric



Article

Social media fatigue in emerging adulthood: exploring the role of fear of missing out and upward appearance comparison >

Yolanda Jaya, Monique Elizabeth Sukamto & Made Ayudhyastiti Savita Putri

Article: 2596661

Published online: 09 Dec 2025

46	0	
Views	CrossRef citations	Altmetric



Article

Unveiling the mediating role of teachers' self-image in the link between collective efficacy and professional commitment >

Sintayehu Belay & Tadesse Melesse

Article: 2596662

Published online: 04 Dec 2025

100	0	
Views	CrossRef citations	Altmetric



Explore articles

Latest	Most read	Most cited	Trending
Explore the most recently published articles			
Social media fatigue in emerging adulthood: exploring the role of fear of missing out and upward appearance comparison >			
Yolanda Jaya et al.			
Article Published online: 9 Dec 2025			
'The mediation role of transactional learning: the relationship between students' perceived lecturer competency, learning readiness, and academic resilience' >			
Dian Veronika Sakti Kaloeti et al.			
Article Published online: 7 Dec 2025			
Prevalence and social determinants of adolescent depression in an unequal urban setting in Latin America >			
Jaime Andrés Benavides Morales et al.			
Article Published online: 7 Dec 2025			

Unveiling the mediating role of teachers' self-image in the link between collective efficacy and professional commitment >

Sintayehu Belay et al.

Article | Published online: 4 Dec 2025



Information for

[Authors](#)

[R&D professionals](#)

[Editors](#)

[Librarians](#)

[Societies](#)

Opportunities

[Reprints and e-prints](#)

[Advertising solutions](#)

[Accelerated publication](#)

[Corporate access solutions](#)

Open access

[Overview](#)

[Open journals](#)

[Open Select](#)

[Dove Medical Press](#)

[F1000Research](#)

Help and information

[Help and contact](#)

[Newsroom](#)

[All journals](#)

[Books](#)

Keep up to date

Register to receive personalised research and resources by email



Sign me up



Copyright © 2025 **Informa UK Limited** [Privacy policy](#) [Cookies](#) [Terms & conditions](#) [Accessibility](#)

 Taylor and Francis Group

Registered in England & Wales No. 01072954
5 Howick Place | London | SW1P 1WG