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The Mechanisms of Social Media-Induced Anxiety: An S-O-R Perspective on FoMO, Social Comparison, Information Overload, and Meritocracy among University Students

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Abstract: Amid growing concerns over the psychological impacts of social media on Chinese university students, this study employs the Stimulus-Organism-Response (S-O-R) framework to investigate how Fear of Missing Out (FoMO), Social Comparison, information overload, and meritocracy (stimuli) influence anxiety (response) through the mediating role of stress (organism). Drawing on data from 327 RedNote users, the results revealed that FoMO, social comparison, information overload, and meritocracy are all positively associated with stress, which in turn significantly influences anxiety. While Meritocracy exhibited no direct relationship with anxiety, its indirect effect via stress was significant. These findings underscore stress as a critical mediator, highlighting platform-specific mechanisms that exacerbate anxiety. This research advances the S-O-R model by integrating novel variables. It offers actionable insights for policymakers, educators, and social media platforms to mitigate digital stressors and foster healthier online engagement.

1. Introduction

Social media platforms like RedNote have become integral to Chinese university students' daily lives, offering spaces for self-expression, lifestyle sharing, peer interaction, and information consumption. However, the platform's emphasis on curated perfection—exemplified by posts showcasing academic achievements, fitness routines, and exquisite life — has raised concerns about its psychological impacts. Previous studies have shown that increased social media usage is associated with more significant symptoms of dispositional anxiety [1]. Additionally, social anxiety is associated with problematic social media use [2]. Fudan Development Institute [3] shows that study- and work-related anxiety is particularly prominent among young Chinese Internet users, showing the life state of "struggling while worrying" or "better, more anxious" situation. The rapid proliferation of knowledge-focused video content further reflects younger generations' strong aspirations for self-improvement and career progression, contributing to a culture of heightened pressure.

Platform-swinging on social media refers to the routine use of multiple social media platforms that have become commonplace across ages. This phenomenon necessitates scholarly investigation

into how platform-specific mechanisms interact with youth mental health within China's unique socio-cultural context. The Stimulus-Organism-Response (S-O-R) model postulates that the environmental stimulus (S) triggers behavioral responses (R) through the mediation of the recipient's internal reactions (O) [4]. Previous research has applied the S-O-R theory across diverse domains to elucidate user behavioral responses following external stimuli [5, 6]. A study finds that information overload and social overload have positive impacts on exhaustion. Results reveal significant associations between FoMO, phubbing, and anxiety, with evidence of partially mediated pathways [7]. Another shows that social comparison plays a significant role in developing materialistic values and compulsive buying among adolescents and young adults [8, 9]. The S-O-R theory is a suitable model for studying the transmission path of social media's influence on individuals. Besides, Existing research has predominantly examined Western platforms such as Instagram [10, 11], overlooking popular social media platforms in China such as RedNote. While Primack et al. showed a correlation between social media use and anxiety, few have systematically examined the relationship between platform-specific stimuli or the role of FoMO, social comparison, information overload, and stress.[12] RedNote's dual role as a social sharing platform and mental health discourse space creates unique tension, requiring contextualized analysis.

As such, to explore this, we adopt the S-O-R model, which integrates external media stimuli (S), internal processing (O), and behavioral responses (R) to analyze the formation of anxiety. Specifically, the purpose of this study is to discuss how fear of missing out (FoMO), social comparison, information overload, and meritocracy influence anxiety perception through the mediating role of stress. Specifically, the goal of the study is to examine the mediating role of stress in the relationship between independent variables and anxiety among university students, which will help (1) provide a richer understanding of the relationship between anxiety and university students social media use and (2) provide implications for university students, educators, social media platforms and policymakers about strategies to foster positive social media use habits and mitigate the negative consequences of social media anxiety among university students.

2. Literature review and hypothesis development

2.1 S-O-R

The S-O-R theoretical framework, originally introduced by Mehrabian and Russell [13], emerged as an approach within environmental psychology. Mehrabian and Russell developed the S-O-R theoretical model on the basis of the Stimuli-Response (S-R) theory. In this model, they proposed that various factors in the environment stimulate the internal states (emotional responses) of organisms, eventually leading to behavioral responses of organisms [14].

The S-O-R model assumes that external stimuli are objective and are assumed to be independent of an individual and directly influence their behavior. It also acknowledges that the perception of stimuli can be subjective and can vary for each person [5]. The S-O-R model posits that an organism's response stems from its active cognitive, affective, and behavioral processing of stimuli, mediated by personal experiences, beliefs, and attitudes. It emphasizes the organism's agency in subjectively interpreting environmental inputs, with responses being shaped by both external stimuli and internal psychological factors rather than following predictable patterns [13, 15].

2.2 Pressure as a mediating variable

2.2.1 FoMO and Stress

FoMO refers to the pervasive anxiety that others are engaging in rewarding experiences from

which one is absent, driving a strong desire to stay continually connected [16]. While previously, individuals might have only learned about missed experiences through face-to-face communication, social networking sites (SNS) now provide instant access to curated portrayals of others' lives, amplifying FoMO [17]. The anxiety stems from the belief that contemporary society increasingly prioritizes experiential moments above material acquisitions [18], yet these experiential opportunities often demonstrate transient and ephemeral characteristics, with most proving irreplaceable and non-recurring. Beyond its social aspects, FoMO is closely linked to psychological health and well-being. Turkle argues the "tethered self" provided by always-on communication technologies can distract us from important social experiences in the here and now [19]. Young generations, in particular, report feelings of disconnectedness and missing out without access to online communication [20]. Consequently, FoMO is closely linked to psychological status and emotion.

Stress is a non-specific response of the body to a demand [21]. Stress has multidimensional effects. For example, anxiety, tension, restlessness, fear, embarrassment can be seen in emotional dimension; self-criticism, concentration and decision-making difficulty, forgetfulness, thoughts about failure in intellectual dimension; stuttering or similar speech difficulties, crying, irritability, clenching teeth, increased or decreased appetite in behavioral dimension; tension in the hands, sweating of hands, headache, back or neck problems, frequent sickness, feeling of fatigue, rapid breathing, palpitations, tremor [22].

Several studies have demonstrated that social media users with high FoMO are likely to suffer from depression and negative emotions [23]. The prior FoMO studies have clearly suggested that a high level of FoMO has negative psychological and physiological consequences [24]. On the RedNote platform, users' constant exposure to curated lifestyles and lots of information about themselves makes them more dependent on this information and spend more time on it. To alleviate FoMO, individuals may overuse social media or engage in unnecessary activities to avoid "missing out." However, these behaviors can exacerbate physical and psychological stress [25]. Accordingly, we propose:

H1a: FoMO would be positively associated with stress.

2.2.2 Social comparison and stress

Social comparison refers to the act of comparing one's abilities, opinions and circumstances with others, also known as interpersonal comparison [26]. Social comparison describes individuals' psychological tendency to assess their achievements, life circumstances, and personal experiences through systematic comparisons with others in their social sphere [27]. Social comparison, initially proposed by Festinger in 1954, has generated substantial empirical research over the past three decades. As the study of coping mechanisms has progressed, it has become increasingly apparent that social comparison processes play a crucial role in managing stress. Consequently, several studies have explored social comparison in real-world settings, focusing on individuals coping with naturally occurring stressors [28]. The foundational premises of social comparison theory have made substantial contributions to academic discourse through their examination of stress response dynamics.

Social comparison has positive or negative effects on people's self-evaluation and emotional state [29]. Therefore, social comparison is not only an important source of psychological stress, but also an important link in the process of coping with stress. There are two main types of social comparison: upward comparison, in which individuals compare themselves with those who are better off, And downward comparison, in which individuals compare themselves with those who are less well off than themselves. Buunk and Ybema argue that whether upward and downward comparisons are positive or negative depends on whether an individual contrasts or identifies with the object of comparison [27]. Existing studies have examined the relationship between social

comparison and stress [28]. The results showed that both upward contrast and downward identification were positively related to stress [30]. Accordingly, we propose:

H1b: Social comparison would be positively associated with stress.

2.2.3 Information overload and stress

Information overload pertains to the condition induced by the large amount of information generated on SNSs, which exceeds the capacity an individual can process [31]. This makes it difficult to find and use information to support decision-making or fill a knowledge gap. In the era of the Internet, it is possible to conveniently and actively access diverse information, and we also passively receive large amounts of information and messages. Many experience constant pressure to stay updated, even on unrelated matters. According to the existing research on information overload in the work scene, we can see that even though the amount of information available to employees has increased, workloads have not decreased, suggesting that employees have a limited amount of time to sift through information to process what is relevant [32]. Moreover, the constant barrage of information increases the number of disruptions to employees' work [33]. Divided attention resulting from managing excessive digital information and communication burdens the working memory and information processing capacities and amplifies distractedness, creating feelings of overload.

Digital overload manifests through cognitive failures in message management, compulsive multitasking behaviors, and stress from perpetual connectivity demands. Hence, information overload can also lead to stress, burnout and other health problems [34]. Former scholars believe that higher levels of perceived information overload from digital sources were significantly associated with higher levels of perceived stress [35]. Accordingly, we propose:

H1c: Information overload would be positively associated with stress.

2.2.4 Meritocracy and stress

Meritocracy is a revolutionary concept developed by Michael Young (1958) that transformed Western society from a feudal system of class inheritance, nepotism, and patronage into a relatively more liberated system of governance. This system allows social mobility and grants individuals the power to access more advanced resources based on their intellectual abilities and efforts [36]. At face value, it is a workable and just principle for allocating rewards and societal advancement.

Meritocracy is a dominant ideology in the United States that contends that an individual, regardless of their background, can obtain success if they put in the hard work of overcoming any personal or societal obstacles [37, 38]. Existing studies argued that such a pervasive meritocracy ideology might be a systemic source of psychological stress [39]. Unlike in the past when students' success or failures were often considered pure reflections of their family status, nowadays, the proposed principles of meritocracy create an illusory belief for both sides, that is, they deserve their place in society because success is acknowledged through diligent work and talents [40]. In other words, groups chronically subjected to systemic discrimination may ascribe their marginalized circumstances to insufficient personal endeavors rather than recognizing the fundamental causes rooted in entrenched societal inequities.

Meritocracy, in theory, is a system in which individuals are rewarded based on their abilities and achievements. However, in practice, adherents of meritocracy may still fail to achieve their desired outcomes despite exerting their utmost efforts, which may cause psychological disequilibrium. Similarly, according to the psychological model of stress [41], psychological disequilibrium can itself be defined as a type of stress, as it occurs due to an imbalance between one's subjective interpretation of one's experiences and existing resources. Meritocracy compels youth to relentlessly pursue excellence and success, frequently fostering increasingly high academic and

career standards that may exceed practical attainments in their personal development.

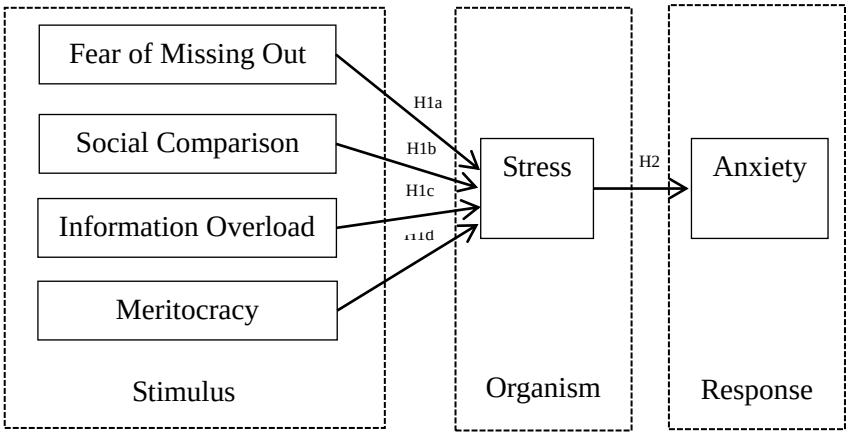
Meritocracy is pressuring young people to strive, perform and achieve in modern life. However, students start to place unrealistic expectations on themselves, which leads to stress [42]. Besides, it can create intense competition and stress: meritocracy often encourages competition and a winner-takes-all mentality. Such dynamics may foster unhealthy competition among students, resulting in heightened stress levels. Accordingly, we propose:

H1d: Meritocracy would be positively associated with stress.

2.3 The relationship between stress and anxiety

Our research model is illustrated in Figure 1. Stress results from an individual's perceived inability to adequately respond to demands or situations that threaten well-being. Stress is a psychological, physical, and behavioral response that occurs when an individual perceives an imbalance between his or her abilities and the demands placed upon him or her. Stress can be positive, such as moderate stress can help improve performance and resilience, but excessive stress can hurt physical and mental health [43]. When personal and situational demands exceed resources, stress is experienced. Stress comes in many sizes and shapes and includes occupational stress, family stress, university and school achievement stress, aging stress, and personal stress. Stress can lead to psychological and physical illness, conflict, aggressive behavior, and anxiety. Stress can be alleviated by both psychological and biological methods.

Anxiety is an emotional state characterized by excessive apprehension about potential future threats, accompanied by a multifaceted response involving physiological arousal (e.g., increased heart rate, sweating), cognitive interference (e.g., difficulty concentrating), and behavioral avoidance (e.g., evading specific situations) [45]. Anxiety refers to an uncomfortable emotional state characterized by apprehension and unease. Whether arising from external stressors or emerging without apparent cause, this condition may trigger sensations ranging from dread and nervousness to persistent worry and profound discomfort [46]. Suppose stress is viewed from a cognitive perspective as a call for action instigated by appraisals of properties of situations and personal dispositions. In that case, anxiety can be viewed as self-preoccupation over the inability to respond adequately to the call [47].



Source(s): Figure by author

Figure 1. Research model

Additionally, prolonged stress depletes prefrontal cognitive resources (e.g., working memory, inhibitory control), impairing emotion regulation and exacerbating anxiety. From psychosocial pathways, stress erodes perceived social support and increases social withdrawal, fostering

loneliness and helplessness—key precursors to anxiety [48]. Additionally, chronic stress weakens an individual's confidence in their problem-solving capacities (self-efficacy), initiating a cyclical pattern where stress reinforces feelings of powerlessness and escalates anxious responses. Accordingly, we propose:

H2: Stress would be positively associated with anxiety.

3. Methodology

3.1 Data collection

We performed a non-probability sampling in Chinese mainland from 23 to 28 February 2025. Specifically, snowballing sampling was adopted and individuals interested in our research topic voluntarily participated in the survey. Those who passed the screening and trap questions were retained. The questionnaires were distributed by Sojump, a professional survey platform in China. Respondents were first asked to read an informed consent and indicate their willingness to participate in the survey. Specifically, the questionnaire starts with demographic questions (e.g., age, gender, education, income, and daily time spent in RedNote), followed by five-point Likert scales regarding other variables, including fear of missing out, social comparison, information overload, meritocracy, stress and anxiety. A total of 335 respondents completed the questionnaire. After removing those failed to pass the trap questions embedded in the questionnaire, responses from 327 respondents were kept as the final sample. In all the samples, women accounted for the highest proportion, accounting for 72.2%. People aged 19 to 28 made up the largest proportion, accounting for 90.8%. University students are the main group, accounting for 84.1% (see Table 1).

Table 1. Sample characteristics.

Variable	Items	Frequency	Percentage (%)
Gender	Male	91	27.8
	Female	236	72.2
Age	18 or below	12	3.7
	19-28	297	90.8
	29-38	17	5.2
	Above 39	1	0.3
Education	Junior college	11	3.4
	Undergraduate	275	84.1
	Graduate student	12	3.7
	Doctoral student	29	8.9
Income	1000 or below	29	8.9
	1000-2000	178	54.4
	2000-3000	78	23.9
	3000-4000	22	6.7
	Above 4000	20	6.1
Time	Within 10 minutes	86	26.3
	10-30 minutes	94	28.7
	30-60 minutes	63	19.3
	1-2 hours	51	15.6
	More than 2 hours	33	10.1

3.2 Measures

FoMO. In line with previous studies [16, 49] participants were asked to evaluate how much they agreed with fear of missing out on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). A sample item was "I fear my friends have more rewarding experiences than me." The

scores were averaged to form a composite index representing the fear of missing out (M = 3.21, SD = 0.67, α = 0.858).

Social comparison. Consistent with previous studies [50, 51], we asked the respondents to indicate their likelihood of social comparison on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). A sample item was "I always pay a lot of attention to how I do things compared with how others do things." (M = 3.35, SD = 0.64, α = 0.874).

Information overload. In line with other information overload studies [52-54], a five-point Likert scale (1 = strongly disagree, 5 = strongly agree) was adopted to evaluate the extent to which one has information overload. A sample item was "I am often distracted by the excessive amount of information available to me in Red Note." (M = 3.13, SD = 0.79, α = 0.828).

Meritocracy. Adapted from the measurements developed by [55], a five-point Likert scale (1 = strongly disagree, 5 = strongly agree)was adopted to evaluate how much they agree with meritocracy. A sample item was "If every person in an office has the same abilities, the promotion ought to always be given to the person who puts in the most effort." (M = 3.78, SD = 0.64, α = 0.787).

Stress. Consistent with previous studies [56, 57], we asked the respondents to indicate their stress extent on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). A sample item was "I found it difficult to relax." (M = 3.47, SD = 0.73, α = 0.890).

Anxiety. Adapted from the measurements from previous studies [56], we asked the respondents to indicate their anxiety extent on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). A sample item was "I sometimes get flustered when I browse Red Note." (M = 2.34, SD = 0.99, α = 0.955).

All variables have passed the validity test, and the KMO value is 0.917 ($p < 0.001$).

4. Results

4.1 Correlation analysis

Pearson's correlation analysis was also conducted to examine the associations between all the research variables. There was a positive correlation between FoMO and social comparison ($r = 0.679$, $p < 0.001$). Furthermore, stress showed significant correlations with social comparison ($r = 0.610$, $p < 0.001$), FoMO ($r = 0.530$, $p < 0.001$), and anxiety ($r = 0.439$, $p < 0.001$). Notably, the correlation between meritocracy and anxiety was negligible ($r = 0.003$, $p > 0.05$) (See Table 2), thereby suggesting potential relationships within the proposed model.

Table 2. Correlation analysis

Variable	Mean	SD	1	2	3	4	5	6
1.FOMO	3.21	0.67						
2.Social Comparison	3.35	0.64	.679***					
3.Information overload	3.13	0.79	.424***	.423***				
4.Meritocracy	3.78	0.64	.375***	.425***	.307***			
5.Stress	3.47	0.73	.530***	.610***	.413***	.321***		
6. Anxiety	2.34	0.99	.358***	.289***	.500***	0.003	.439***	

Notes. All correlations were significant at the 0.001 level (two-tailed).

4.2 Regression analysis

As seen in Table 3, FoMO was positively associated with stress ($B = 0.25$, $t = 2.7$, $p < 0.001$),

lending support to H1a. In addressing H1b, which assumes that social comparison is positively related to stress. The results demonstrate that social comparison was positively associated with stress (B = -0.127, t = -1.221 , p < 0.001), supporting H1b. Furthermore, information overload was further positively associated with stress (B = 0.497, t = 7.729 , p < 0.001), consistent with H1c. In addressing H1d, which assumes that meritocracy is positively related to stress. The results prove that meritocracy was positively associated with stress (B = -0.364, t = -4.693 , p < 0.001), supporting H1d. It is worth mentioning that meritocracy can only have an impact on anxiety through stress, and its impact on anxiety itself is not significant.

Table 3. Predictors of Anxiety

	Model 1				Model 2				Model 3			
Variables	B	SE	β	t	B	SE	β	t	B	SE	β	t
(Constant)	2.374	0.48		4.947	0.992	0.474		2.093	0.831	0.455		1.825
Gender	-0.058	0.143	-0.026	-0.406	-0.114	0.124	-0.052	-0.92	-0.175	0.12	-0.079	-1.461
age	0.339	0.206	0.109	1.644	0.214	0.174	0.069	1.231	0.165	0.167	0.053	0.989
education	-0.234	0.114	-0.148	-2.056*	-0.141	0.096	-0.089	-1.463	-0.138	0.092	-0.087	-1.489
income	-0.156	0.058	-0.152	-2.673**	-0.125	0.049	-0.122	-2.538*	-0.117	0.047	-0.114	-2.479*
time	0.109	0.044	0.144	2.46*	0.027	0.038	0.036	0.711	0.028	0.037	0.037	0.76
FoMO					0.317	0.096	0.216	3.321**	0.25	0.093	0.17	2.7**
SC					0.078	0.101	0.051	0.77	-0.127	0.104	-0.083	-1.221
IO					0.552	0.066	0.442	8.347***	0.497	0.064	0.398	7.729***
meritocracy					-0.356	0.081	-0.229	-4.394***	-0.364	0.078	-0.235	-4.693***
STR									0.417	0.078	0.308	5.348***
ΔR^2	0.047***				0.325***				0.379***			
R^2	0.061***				0.344***				0.398***			
F for R^2	4.185***				18.446***				20.907***			

Table 4 presents the results of the indirect effects of independent variables (including fear of missing out, social comparison, information overload, and meritocracy) on the dependent variable (anxiety). Bootstrap analysis indicated that all 95% confidence intervals excluded zero, confirming significant mediation effects. The procedure of bias-corrected percentile bootstrap revealed that the indirect effect based on 5,000 bootstrap samples was significant (ab = 0.2701, Boot SE = 0.0514, 95% CI = [0.1704, 0.3699]). Thus, stress significantly mediates FoMO on anxiety. The procedure of bias-corrected percentile bootstrap revealed that the indirect effect based on 5,000 bootstrap samples was significant (ab = 0.3935, Boot SE = 0.0648, 95% CI = [0.2705, 0.5228]). Thus, stress significantly mediates social comparison on anxiety. The procedure of bias-corrected percentile bootstrap revealed that the indirect effect based on 5,000 bootstrap samples was significant (ab = 0.1442, Boot SE = 0.0313, 95% CI = [0.0839, 0.2049]). Thus, stress significantly mediates information overload on anxiety. The procedure of bias-corrected percentile bootstrap revealed that the indirect effect based on 5,000 bootstrap samples was significant (ab = 0.2429, Boot SE = 0.0605, 95% CI = [0.1283, 0.3689]). Thus, stress significantly mediates meritocracy on anxiety. (See Table 4).

Table 4. Indirect Effect(s) of X on Y

Path	Effect	BootSE	BootLLCI	BootULCI	The proportion of indirect effects
FOMO→Stress→Anxiety	.2701	.0514	.1704	.3699	51.32
Social comparison→Stress→Anxiety	.3935	.0648	.2705	.5228	88.31
Information overload→Stress→Anxiety	.1442	.0313	.0839	.2049	23.09
Meritocracy→Stress→Anxiety	.2429	.0605	.1283	.3689	53.98

5. Discussion

This study investigates why people get anxious on social media (RedNote), examining its

indirect effects through FoMO, social comparison, information overload, meritocracy, and stress. First, the present study found that FoMO is positively associated with stress. This finding is similar to a previous survey of FoMO influencing social media fatigue. The findings suggest that compulsive media use significantly triggered social media fatigue, which later result in elevated anxiety and depression. Fear of missing out indirectly predicted social media fatigue through the mediation of compulsive social media use [58]. A plausible explanation for this finding is that social media platforms exacerbate people's fear of missing out and the resulting stress.

Second, this study found that social comparison is positively associated with stress. This finding corroborates prior research highlighting the positive association between social comparison and stress. Passive social media use exposes individuals to idealized portrayals of others. This comparison highlights personal deficiencies, fostering frustration and envy, which elevate stress. Their results also suggest that the relationship between social media use and social comparison is contingent on social context [30].

Third, the present study reveals that information overload is positively associated with stress. This aligns with previous research demonstrating the positive relationship between information overload and perceived stress [35]. This study finds that the massive amount of information brought by social media platforms (RedNote) will make people feel powerless in front of various consultations, and information overload brought by social media platforms will bring people anxiety.

Fourthly, this study found that meritocracy is positively associated with stress. This finding corroborates prior research highlighting the positive association between meritocracy and stress [59]. This study also found that university students who support and practice meritocracy tend to have stricter requirements on themselves and believe that they can achieve what they want through their efforts, which is often accompanied by more pressure.

Finally, the current study found that stress is positively associated with anxiety. This aligns with previous research demonstrating the positive relationship between social network addiction and anxiety level [60]. Many studies have shown that stress is one of the sources of anxiety, and stress often leads to cognitive imbalance, which makes people feel anxious. In particular, college students are more likely to feel pressured by the fierce competition. Their use and dependence on social media platforms also affect the way they deal with pressure, and thus, they fail to deal with it correctly, which will lead to anxiety.

5.1 Theoretical and managerial implications

This study makes theoretical contributions to the field of the SOR theoretical framework on understanding users' anxiety psychology, adding several variables, including FoMO, social comparison, information overload, meritocracy, stress, and anxiety.

This study has several practical implications. The study reveals that information overload and meritocracy significantly intensify stress among college students. We recommend that Red Note optimize its information distribution mechanisms, for example, by developing algorithms that prioritize well-being by demoting competitive or idealized content. To address the psychological mechanisms of social comparison and FoMO, universities should launch "critical social media usage" workshops applying the S-O-R model to deconstruct anxiety generation chains, training students to identify "algorithmic traps." Collaborate with platforms to develop "digital footprint analysis tools," helping students visualize correlations between browsing behaviors and emotional fluctuations. Building on the verified mediating effect of stress (O), we propose to create a "social comparison conversion system" that automatically pushes authentic life samples from same-university peers when detecting frequent upward comparisons, establishing reference frame

balance. Mandate platforms to publish “anxiety alert annual reports,” disclosing big data on user emotional fluctuations in specific content categories (e.g., postgraduate exam check-ins, job-seeking experience posts).

Structured educational programs focusing on critical social media engagement should integrate stimulus-organism-response (S-O-R) theoretical frameworks to analyze anxiety propagation mechanisms systematically. Building upon the established mediating role of stress in the stimulus-organism-response framework, institution-specific recommendation systems could be designed to counteract upward comparison biases. Such systems would deliver authentic narratives from academic peers when detecting repeated exposure to idealized content representations. Platform-level regulatory measures should mandate annual transparency reports detailing empirical data on emotional responses to achievement-related content clusters, including postgraduate examination preparation and career development discourse. This multi-level intervention strategy combines psychoeducational components with technological safeguards and policy interventions, creating an ecosystem approach to digital well-being in academic communities.

5.2 Limitations and further research

This study has some limitations. First, this study is a cross-sectional study. Future research could enhance validity by adopting longitudinal methodologies with multiple data collection, allowing for dynamic tracking of anxiety manifestation patterns. Second, most of the samples in this study are young people, and there are few middle-aged and elderly people. Future studies should incorporate more representative samples of middle-aged and older adult populations to strengthen the external validity and broaden the generalizability of research findings across different age demographics.

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