

# ***Examining Parental Social Media Use and Educational Anxiety During Their Child's Transition to Higher Education: An EPPM Analysis***

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**Abstract:** This study investigates the relationship between proactive social media engagement and parental anxiety during the academic transition period in contemporary China. Through the process of gathering questionnaire data and performing data analysis, this research investigates the manner in which actively participating in social media platforms has a positive impact on parental anxiety. This impact is observed through the mediation of two variables: risk perception and efficacy perception. The academic transition period, which involves important educational milestones such as entrance exams or university admissions, often creates significant stress and anxiety for both students and their parents in China. With the rapid growth and widespread use of social media in recent years, it is crucial to explore its potential impact on parental anxiety during this crucial phase. This study can provide a reference for the extension of EPPM to address issues related to social anxiety. Additionally, it can offer effective approaches to alleviate parental educational anxiety.

**Keywords:** proactive social media engagement, parental anxiety, academic transition period

## **1. Introduction**

Educational anxiety presents itself as a prolonged and widespread concern for Chinese parents. A report titled “China Parental Education Anxiety Index Survey,” jointly released by Zhike Education and Sina Weibo on September 16, 2018, sheds light on this issue. According to the report, the parental education anxiety index in China has surged to 67 points, indicating a notably high level of anxiety. The term “transition to higher education” denotes the rigorous process of selecting and gaining admission to advanced educational institutions or grade levels via examinations and assessments. More precisely, the “transition period” encompasses the period leading up to these crucial exams and the preparatory phase for these evaluations. Irrespective of the educational journey’s progression or ultimate outcomes, the transition period emerges as a pivotal focus for both students and parents. Notably, parental anxiety intensifies during this phase, primarily due to the substantial influence exerted by the transition exams [1].

Simultaneously, the rise of the digital age, facilitated by technological devices like smartphones that represent the intelligent terminals, has reshaped and even disrupted lifestyles, communication methods, and even the very essence of existence and cognition. The prevalence of advanced online communication has made various forms of information readily accessible. Parents of this generation

heavily rely on various forms of social media to acquire knowledge and information related to educational transitions. However, the sensations of anxiety can also traverse from the digital realm to reality. Factors such as the competitive nature of the transition exams, increased difficulty in transitioning, conflicts between focusing on a child's educational path and their personal development timeline, combined with the prevalence of "expert opinions" on educational transitions and news about policies like the "double reduction policy" on social media, further intensify parents' cognitive and educational anxieties.

Studies conducted by Liu et al. [2] have demonstrated the significant impact of information exposure on parental anxiety under the context of the "double reduction" policy, which refers to an educational policy implemented in China that aims to reduce academic burden and alleviate pressure on students, while research by Jing et al. [3] has introduced the EPPM model to this field. However, prior research has not directly addressed the specific and real-world context of educational transitions. Therefore, this research takes the perspective of "the relationship between online information exposure and parental anxiety during the educational transition period" as its focal point, aiming to uncover the mechanisms through which parental social media information exposure influences educational anxiety during this transition period.

## 2. Literature Review

### 2.1. Online Information Contact and Parent Anxiety

In China, educational anxiety is a long-term and widespread concern among parents. This type of anxiety arises from an excessive concern about the outcomes of their children's education. It is manifested by the fear that their children might not be able to access quality educational resources, may struggle to enter better educational platforms, and subsequently face challenges in securing good employment opportunities in society. Previous research on parental educational anxiety often focused on its impact on parenting styles and children, for instance, the influence of parental educational anxiety on parenting styles [4]. Factors contributing to parental educational anxiety include the uncertainty of educational policy changes [5], parents' inherent educational beliefs, and the growing middle class [6]. In 2023, the number of applicants for the Chinese national college entrance examination reached 12.79 million, turning this exam into a topic of concern for millions of families.

Additionally, since 1983, China's secondary education stage has largely maintained a balance between general and vocational education enrollments. Along with the significant economic development over the 40 years of reform and opening up, and the widespread expansion of higher education, the current subjective imbalance in the allocation of general and vocational education streams within families has shifted the enormous pressure of academic achievement from the college entrance examination to the junior high school entrance examination or even primary school transitions. This pressure has fueled a competitive orientation towards education among parents [7]. As a result, parental anxiety during the transition period has become widely prevalent, underscoring the significance of conducting specific research in this context.

Social media serves as both a tool and platform for individuals to share their opinions, experiences, and perspectives. Fueled by technological advancements, especially the internet, platforms like WeChat, Weibo, and TikTok have rapidly transformed into influential channels for generating and disseminating information. These platforms not only revolutionize the conventional methods of information transmission but also deeply influence the social conduct of their users. The acquisition of media information can be broadly categorized into active and passive modes. Active seeking involves users purposefully searching for information on specific topics [8]. This proactive approach to obtaining information significantly influences behavioral intentions and decisions. Social media, with its user-friendly features, provides a convenient avenue for individuals to proactively pursue the

information they require [9]. Consequently, this dynamic information-seeking process brings about alterations in cognition, attitudes, behavior, and various other aspects.

Leveraging emerging internet technologies, social media, in comparison to traditional media, possesses characteristics such as decentralization, rapid dissemination, personalized sources of information, and strong interactivity. Consequently, it has become an important avenue for people to acquire risk-related information [10]. The exposure to social media has also profoundly transformed contemporary parenting beliefs and practices. Drouin et al. found that parents and children with higher anxiety levels are more likely to increase their usage of technological products such as social media and smartphones [11]. Higher parental anxiety is associated with seeking social support and information through social media; however, the impact of social media use on anxiety levels was not confirmed [12]. Jingtian et al.'s study examined the influence of social media exposure on parental parenting anxiety. The research differentiated anxiety in parents towards themselves and their children, delineating the specific scope of parenting anxiety [3]. However, in comparison to parenting anxiety, the context of education-related anxiety among parents during the school transition period is more specific.

Therefore, this paper posits that parents' information acquisition patterns significantly influence the anxiety levels of parents during the academic admission period. The following hypothesis is proposed:

H1: Proactive engagement with social media information impacts the anxiety levels of parents during the transition period.

## 2.2. The Extended Parallel Process Model

The Extended Parallel Process Model (EPPM), introduced by Witte in 1992, integrates several classical fear appeal theories and distinguishes fear-induced emotions from individual cognitive processing. It elaborates on the relationship between perceived threat and perceived efficacy, explaining why fear appeals struggle to persuade and describe conditions conducive to promoting preventive and risk-reducing behaviors [13]. The Social Amplification of Risk Framework (SARF) posits that social media allows individuals to participate in shaping risk perceptions through more direct and easier discussions on risk topics. This discussion has higher persistence and stronger diffusion compared to traditional media reporting or face-to-face discussions. During the use of social media, exposure to risk information intensifies risk perceptions, leading to negative emotions such as anxiety [14]. To investigate the mechanism of social media risk communication, scholars have incorporated the Extended Parallel Process Model (EPPM) to explain and predict individual responses to fear-inducing situations.

In the context of EPPM, two pivotal factors come to the forefront: threat and efficacy. Threat perception is used to describe people's attitudes and intuitive judgments towards risks, encompassing perceived susceptibility and perceived severity. The former refers to individuals' perception of the likelihood of experiencing a threat, while the latter pertains to the individual's judgment of the magnitude and seriousness. Self-efficacy refers to an individual's perception of their own ability to perform activities necessary to achieve a desired goal. On the other hand, reflective efficacy pertains to the influence of suggested coping strategies on the effectiveness of mitigating threats. In the EPPM model, once individuals perceive a high level of threat, fear is aroused, leading to the evaluation of one's self-efficacy in resisting the threat. If individuals perceive a high level of threat and low efficacy, they may not take measures to reduce the threat and may even avoid relevant information.

In both news media and social media, the aforementioned cognitive pathways are frequently employed to convey risk-related information to the audience. For example, in research on breast self-examination among Chinese women [15], researchers found that social media articles related to breast cancer contained both threat and efficacy factors, and these two factors significantly influenced the

audience's reception of relevant information. In the public persuasion of COVID-19 vaccine administration, the emphasis on threat and efficacy played a significant role [16]. Therefore, the Extended Parallel Process Model (EPPM) is an applicable framework for studying the propagation of risk through social media, revealing the influence path of social media information on individual risk perception.

At the emotional level, a high perception of threat can induce greater fear, while a high perception of efficacy can foster more hope [17]. EPPM can be used to explain the generation of negative emotions such as fear and anxiety. Risk information on social media can trigger anxiety, such as news reports on major public health events that can cause anxiety among the audience. At the same time, as mentioned by Dunlop et al., certain elements of educational activities undoubtedly include fear appeals to raise public awareness of risks and dangers, triggering action-oriented emotions [18]. In addition, the innovative research by Jing et al. directly linked parental anxiety to risk perception, effectively expanding the application scope of EPPM to the domain of parenting and parental anxiety. Building upon this line of thinking, this research further introduces academic transition anxiety into the model.

Furthermore, according to the research by Jing et al., actively engaging with parenting-related information may increase parental risk perception and, consequently, amplify parental anxiety. However, it could also alleviate parental anxiety by enhancing parental efficacy perception. Overall, active information engagement has a greater impact on risk perception than efficacy perception, thus positively influencing parental anxiety [3]. Therefore, this paper argues that parents' information-seeking behaviors have a significant impact on academic transition anxiety. The influence process is as follows: After parents are exposed to risk-related information on social media, they assess the susceptibility and severity of the risk. The greater their perception of susceptibility and severity, the higher the likelihood of experiencing anxiety. Simultaneously, when exposed to information that alleviates risks, their self-efficacy and response-efficacy are reassessed, leading to an increased belief in their ability to help their child succeed in school and reducing educational anxiety. However, overall, the proactive engagement with information has a stronger impact on risk perception than efficacy perception, thereby positively influencing parental educational anxiety. Both risk perception and efficacy perception serve as mediating variables between social media exposure and parental academic transition anxiety.

In summary, this study utilizes the EPPM model to investigate the connection between social media usage and parental anxiety related to their adolescents' academic transitions during the transition period. The objective is to decipher how anxiety is triggered and mitigated through the lenses of threat perception and efficacy perception. In this research, the primary source of parental anxiety revolves around the apprehension that their child might not gain admission to their preferred school. Building upon this premise, we have put forth pertinent hypotheses.

H2: Active exposure to social media information influences parental anxiety during the academic transition period through risk perception.

H3: Active exposure to social media information influences parental anxiety during the academic transition period through efficacy perception.

### **3. Methods**

#### **3.1. Sample Selection**

The data for this research was collected in August 2023. The questionnaire was designed and distributed through the Wenjuanxing platform. This research used a snowball sampling method, which involves parents forwarding online questionnaires to their chat groups for sampling. The research sample consisted of parents from second-tier cities and above in China, where at least one

of their children is under the pressure of entrance examinations. According to existing research on “family anxiety” in China, cities with a higher level of economic development tend to have higher levels of family anxiety. Additionally, internet and social media usage are more prevalent in these cities, making them more targeted subjects for this research. A total of 434 questionnaires were collected, and based on the responses to the attention test, 5 questionnaires were removed. This resulted in 429 valid questionnaires (117 from fathers, 312 from mothers) with an average age of 42 years.

## **3.2. Scales**

The questionnaire consisted of four parts: basic information, information exposure and perception test, anxiety level test, and privacy information.

### **3.2.1. Information Exposure Test**

The Likert scale was used to measure the frequency of different information acquisition behaviors of parents during the academic transition period. The reliability coefficient  $\alpha_1$  was 0.830, indicating strong consistency.

### **3.2.2. Risk and Efficacy Perception Test**

The Likert scale was used. This part was adapted from the risk and efficacy perception scale developed by Witte et al. in 2001 [19]. The reliability coefficients for risk perception and efficacy perception were both greater than 0.8 ( $\alpha_2=0.813$ ,  $\alpha_3=0.810$ ).

### **3.2.3. Measurement of Educational Anxiety**

The measurement of parental anxiety in this questionnaire was based on the GAD-7 Generalized Anxiety Disorder scale. Studies by Qu and Shengli have shown that the internal consistency coefficient of this scale in China is 0.93 [20], indicating good structural validity. In this research, the original items of the scale were retained, and the situational settings of the original scale were adapted.

## **3.3. Data Analysis**

This research used SPSS 26.0 software and the Process plugin for data analysis. The research explored the factors of parental anxiety, the impact of social media on parental anxiety through reliability analysis, multilevel regression analysis, and mediation effect testing models, and examined the mediating effect of risk perception and efficacy perception.

## **4. Results**

### **4.1. Description of Parental Anxiety During the Academic Transition Period**

Among the questionnaires collected in this research, the average annual household income of the parents ranged from 80,000 to 160,000 yuan. Among the parents, 17.5% of them had children facing the entrance examination for junior high school, 38.0% had children facing the entrance examination for high school, and 39.9% had children facing the college entrance examination. The remaining parents had children facing other types of entrance exams.

Table 1: Basic information description.

Variables	Categories	N	Percentage
Gender	Male	117	27.3
	Famale	312	72.7
Birth year	1970s	201	46.9
	1980s	207	48.3
	1990s	21	4.8
Number of children	1	264	61.5
	2	152	35.4
	3	11	2.6
	4 and more	2	.5
What is the primary entrance examination that the child is currently facing? (If there are multiple children, consider the closest one to the entrance examination.)	Examination for junior high school	75	17.5
	for senior high school	163	38.0
	for college (NCEE)	171	39.9
	Others	20	4.7

(Photo credit: Original)

The level of anxiety among parents during the academic transition period was statistically analyzed and categorized according to the Generalized Anxiety Disorder Scale-7 (GAD-7). The results showed that 31.0% of the parents had no anxiety, 40.1% had mild anxiety, 22.6% had moderate anxiety, and 6.3% had severe anxiety. When comparing parents of different age groups, parents aged 44 and above (born in the 1970s) had the highest average anxiety level, reaching 7.5174. The next group was parents aged 34-44 (born in the 1980s) with an average anxiety score of 7.3430, followed by parents born in the 1990s with an average anxiety score of 6.5238. When comparing parents at different stages of the entrance examination period, the average anxiety level of parents whose children were facing the entrance examination for junior high school was 6.5733, for middle school entrance examination it was 7.8834, and for college entrance examination (National College Entrance Examination) it was 7.5739. These statistics indicate that parents of middle school entrance exam takers had the highest level of anxiety, followed by parents of college entrance exam takers, and then parents of junior high school entrance exam takers. This suggests that school selection and the transition to high school have a greater impact on parental anxiety.

#### 4.2. Parents' Use of Social Media and Overall Anxiety about the Entrance Examination

Through correlation analysis of variables such as parents' gender, number of children, active engagement with social media, family annual income, and entrance examination anxiety, it was found that parental entrance examination anxiety was significantly positively correlated with active engagement with social media (PCC = 0.220\*\*), children's academic rankings (PCC = 0.154\*\*), and the type of entrance examination they were currently facing (PCC = 0.129\*\*). On the other hand, it was significantly negatively correlated with family annual income (PCC = -0.143\*\*), children's satisfaction with the school (PCC = -0.117\*), and parental satisfaction with the school (PCC = -0.107). The analysis also found no significant correlation between parental entrance examination anxiety and variables such as gender, age, number of children, and education level. Therefore, in this study, with parental entrance examination anxiety as the dependent variable, relevant variables were used as independent variables for multilevel regression analysis. In this analysis, academic ranking and type

of entrance examination were included in the first level, active information engagement was included in the second level, and children’s satisfaction with the school, parental satisfaction with the school, and average annual income of the family were included in the third level. The results of the regression analysis are as follows:

Table 2: Multiple stratum regression analysis of parents’ anxiety in the upgraded semester.

	Zero-Order correlation	Model 1	Model 2	Model 3
Block 1				
Ranking of academic performance	.154**	.421**	.476***	.368**
Type of entrance examination	.129**	.418*	.325*	.303
Adjusted R <sup>2</sup>		.034		
Block 2				
Active engagement with social media	.220**		.653***	.743***
Adjusted R <sup>2</sup>			.080	
Block 3				
Parents’ satisfaction with the school	-.143**			-.447
Children’s satisfaction with the school	-.117*			-.105
Family annual income	-.143**			-.566**
Adjusted R <sup>2</sup>				.110

(Photo credit: Original)

From this analysis, it can be observed that parents whose children have higher academic rankings in their class tend to exhibit higher levels of anxiety compared to parents whose children have lower rankings. Parents of students facing middle school and college entrance examinations tend to have higher levels of anxiety compared to parents of students facing junior high school entrance exams or other types of entrance exams. The more parents engage with relevant information on social media, the higher their anxiety levels tend to be. Additionally, parents who have higher satisfaction with the school their children attend tend to have lower levels of anxiety about their children’s entrance examinations. Similarly, when children themselves are more satisfied with the school they attend, their parents tend to have lower levels of anxiety about their entrance examinations. Higher family annual income is associated with lower levels of parental entrance examination anxiety.

### 4.3. Verification of Mediation Effect

Validate the mediating role of risk perception and efficacy perception between proactive social media engagement and parental anxiety during the academic transition period using the process plugin. In proactive social media engagement, the indirect effects of risk perception (indirect effect = 0.2547, 95% CI = [0.1389, 0.4029]) and efficacy perception (indirect effect = 0.4907, 95% CI = [-0.2088, -0.0119]) were significant, as shown in the table below.

Table 3: Verification of mediation effect.

Regression equation (N=429)			Fit indices		Sig.	
outcome	Predictor Variable	R	R <sup>2</sup>	F	B	t
Anxiety	Proactivity	.2200	.0484	21.7091	.6462	4.6593***
PE	Proactivity	.2691	.0877	41.0460	.1571	6.4067***

Table 3: (continued).

PR	Proactivity	.2797	.0782	36.2305	.2715	6.0192***
Anxiety	Perceived Efficacy	.3663	.1342	21.9513	-.5633	-2.3503*
	Perceived Risk				.9379	6.4229***
	Proactivity				.4907	3.4543**

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

Table 4: Total effect and mediation effect.

		Effect	Boot SE	Boot LLCI	Boot ULCI	Relative effect
Proactivity	Total	.6462***	.0758	.0163	.3117	
	Mediator effect of perceived efficacy	-.0992	.0491	-.2088	-.0119	24.06%
	Mediator effect of perceived risk	.2547	.0672	.1389	.4029	
	Direct effect	.4907**	.1421	-	-	75.94%

(Photo credit: Original)

From this, it can be inferred that parents who actively seek education-related information on social media increase their parental anxiety. At the same time, when parents actively engage with education-related information on social media, it enhances their risk perception, thereby increasing parental anxiety. However, by enhancing parents' efficacy perception, it partially mitigates their anxiety. The larger the perceived risk, the more severe the anxiety, while the enhancement of efficacy helps alleviate some of the anxiety. However, this study found that the impact of proactive engagement with social media on risk perception is much greater than its impact on efficacy perception, resulting in increased levels of anxiety. Overall, in the process of actively engaging with education-related information on social media, the stronger the parents' proactivity, the more severe their anxiety about the examinations and the further education.

In conclusion, hypotheses H1, H2, and H3 have all been validated.

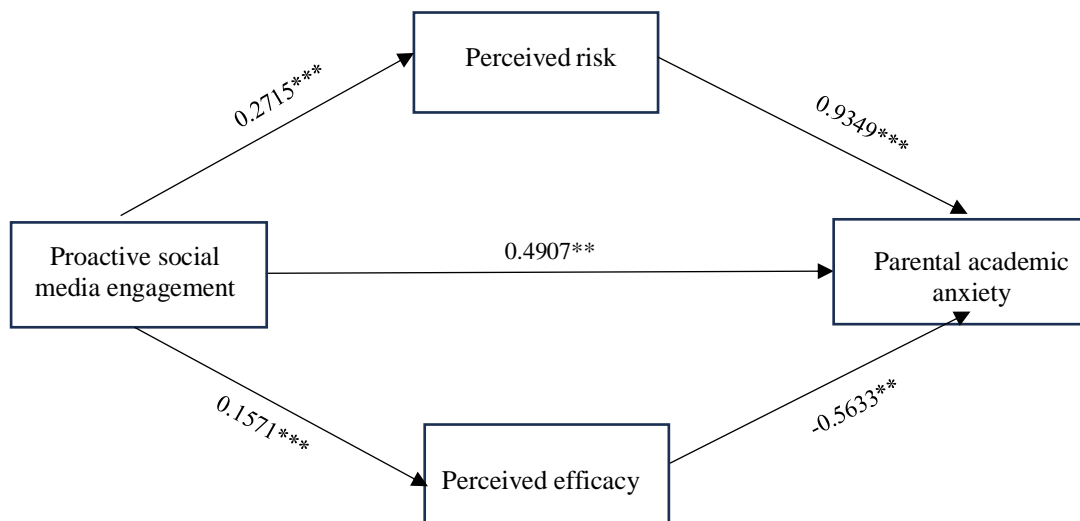


Figure 1: Schematic diagram of mediation effect. (Photo credit: Original)



## 5. Conclusion

The study has unearthed a positive influence of active involvement with social media on parental anxiety during the academic transition phase. This influence is mediated by its impact on both risk perception and efficacy perception. Proactive engagement with social media contributes positively to parents' assessment of risk during this academic transition period. Furthermore, it also enhances parents' perception of efficacy during this period. However, the effect on risk perception stemming from active social media engagement outweighs its impact on efficacy perception, resulting in an overall increase in parental anxiety.

For parents born in the 1970s, 1980s, and 1990s, social media typically serves as their primary channel for accessing educational information. Consequently, social media wields significant influence and can even shape the cognitive processes, attitudes, and coping strategies of parents concerning exams and related policies. In today's context, where social media is deeply ingrained in daily life, parents who actively seek educational information are more likely to encounter content about exam difficulty, competitive pressures, and the potential repercussions of failure. These messages consistently reinforce the immense importance of exam success or failure and its profound impact on their child's future.

In addition, the reason may lie in the inherent bias of human attention and memory towards negative stimuli such as crises, which is a biological protective mechanism developed through long evolution. Moreover, after parents have access to relevant information, risk-related stimuli directly and rapidly stimulate risk perception, while alleviating risk-related stimuli require validation through combining the child's actual situation, resulting in a slower and lower development of efficacy perception.

Furthermore, based on the data obtained from this study, it is evident that parental anxiety is widespread during the academic transition period. Among parents of students preparing for different exams, the highest level of anxiety is observed among parents of students preparing for the senior high school entrance examination, followed by the college entrance examination and the junior high school entrance examination. This may be because the senior high school entrance examination and the college entrance examination have a significant streamlining and selection effect, and even have a significant impact on the future career direction of certain students, making them highly important in parents' perception. Therefore, parents fear the consequences of their children's poor performance in the exams. Parents born in the 70s have the highest average anxiety level, which may be attributed to their children being in the age range of the senior high school entrance examination and the college entrance examination. In this context of widespread anxiety, risk-related information is more likely to spread and there is a larger quantity of such information on social media, thereby intensifying parents' risk perception.

Moreover, factors such as the child's academic ranking and the parents' and child's satisfaction with the school also play an important role in parental anxiety. The higher the child's academic ranking in the class, the higher the parents' anxiety level. This may be because when the child's academic ranking is higher, parents may increase their expectations and hope that the child will maintain excellent performance and achieve higher grades. However, at the same time, parents' efficacy perception does not experience a corresponding increase. Such high expectations and pressure may lead to parental anxiety, as they worry that their child will not be able to meet the standards they have set. The higher the parents' and child's satisfaction with the school, the lower the parents' anxiety level. This aligns with our intuitive understanding. When parents acknowledge the school and teachers' contribution to their child's education during the academic transition period, they have a higher perception of efficacy ( $R1 = 0.154^{**}$ ), believing that they have provided greater

assistance to their child's academic transition and thus alleviating their anxiety. The same principle applies to the child's satisfaction with the school ( $R^2 = 0.411^{**}$ ).

Family income level also has an impact on parental anxiety. The higher the annual income of the family, the lower the parents' anxiety about their child's academic transition. This may be because a well-off family can provide more choices and options for their child's future, relieving parents from excessive concern about the consequences of their child's poor performance in the examinations.

Therefore, as parents during the academic transition period, it is important to appropriately adjust the frequency of obtaining relevant information and focus long-term and in-depth on accessing risk-related information to enhance their understanding of risks and their ability to alleviate stress. Regarding social media, efforts should be made to enhance the verification of risk-related information related to academic transition, providing reliable and effective education-related information to parents. At the same time, educational organizations and educational departments should also pay attention to disseminating information that closely reflects the real situation and buffers parental comparison pressure.

The present study introduces the Extended Parallel Process Model (EPPM) into the context of parental anxiety during the educational transition period. It uses the model's constructs of risk perception and efficacy perception to measure and analyze the relationship between proactive engagement with social media and parental anxiety during this period. The study demonstrates a high level of fit between the model and the research content, expanding the application of the EPPM in the context of risk communication and anxiety in social media. It represents an innovative use of the EPPM in the realm of internet anxiety.

Furthermore, previous research has paid little attention to the impact of proactive social media engagement. In real-life situations, there is a correlation between users' proactive engagement and their perception of anxiety. This study fills this gap and confirms, through the structural mediation effect, a positive relationship between the two. This is the innovative aspect of the study.

The present study draws the following conclusions: during the period when their children are going through an educational transition, there is a positive correlation between proactive engagement with social media and parental anxiety, with risk perception and efficacy perception mediating this relationship. Specifically, active engagement with social media is positively correlated with parents' perception of the risks associated with their children's educational transitions and their efficacy in dealing with these situations. It is worth noting that although both risk perception and efficacy perception act as mediating factors, the impact of proactive social media engagement on parents' risk perception is more significant than its impact on efficacy perception. This indicates that parents who actively engage with social media are more likely to increase their awareness of potential risks associated with their children's educational transitions, as well as enhance their perception of their own abilities to cope with these challenges. However, the former has a greater impact on parental anxiety.

The study has limitations in terms of controlling variables in data analysis. It lacks a more comprehensive understanding of variables such as the parents' occupations, identities, family structures, and expectations regarding the educational transition. As a result, the explanatory power regarding the comprehensive understanding of parental anxiety during the current educational transition period is limited. Additionally, the study did not compare the data between parents during the educational transition period and parents during non-transition periods, failing to directly demonstrate that parental anxiety is more severe during the educational transition period.

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