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THE EFFECTS OF EMOTIONAL WARMTH AND REJECTION ON ADOLESCENT SOCIAL BEHAVIOR THE MEDIATING EFFECT OF PARENTAL INTERFERENCE AND TECHNOLOGICAL INTERFERENCE

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Abstract
This study primarily explores the question of whether mothers in family education can act as mediators for adolescent social behavior under two parenting styles. In today's society, the development of technological products is advancing at an ever-increasing pace, with updates and iterations happening almost every year. Adolescents have a constantly expanding range of online access, presenting challenges for parents in managing and educating their children. Different Mother's parenting attitudes can have varying effects on adolescent development, and it is essential to research whether adolescent social behavior can be improved through parental interference as a mediator. The questionnaire analysis results indicate the following: Mother's parenting styles, particularly emotional warmth or rejection, have a significant impact on adolescent social behavior, with technological interference serving as a mediating factor, while the mediating effect of parental interference is less prominent; these factors are interconnected in shaping adolescent social behavior.
Keywords: Emotional warmth, rejection, social behavior, technological interference, parental interference.

Introduction

With the advancement of internet technology, people frequently use the internet to maintain their social relationships, which can sometimes lead to detrimental habits such as smartphone addiction and internet addiction. Smartphone addiction is a problematic behavior resulting from the excessive use of modern scientific technology (Li & Lu, 2017), and prolonged internet usage negatively impacts life satisfaction (Stepanikova, 2010). Moreover, internet addiction can share similarities with other behavioral addictions, including the loss of self-control and persistent harmful behaviors (Sahu, 2019).

As of June 2022, the "Statistical Report on Internet Development in China" revealed that the number of internet users in China had reached 1.051 billion, with 20% of these users being teenagers aged 10 to 19. Clinical research has shown that 25% of Chinese teenagers exhibit symptoms of smartphone addiction (He, Wan, & Hui, 2019). Therefore, studying the mechanisms

of the impact of internet relationship addiction among adolescents under different parenting styles is of utmost importance.

Literature Review

Parental style

Different scholars have varying definitions of parenting styles. For instance, Wang (2004) defines parenting styles as a model of education involving behavior and non-verbal cues to shape a child's attitudes and beliefs. The most widely adopted definition of parenting styles, as summarized by Darling and Steinberg, describes them as a manifestation of parental interaction with their children in a family-centered environment, with the children as the focus, involving both behavior and language. Parenting styles have a significant and intricate influence on a child's development. Unfavorable parenting styles can lead to unhealthy psychological and behavioral patterns in children (Salovey, 1990), such as causing internet addiction (Hou, Chen, Wang, & Li, 2002; Yan & Yang, 2006; Wang, 2008). However, when parents employ positive parenting styles like emotional warmth, children may possess higher emotional intelligence (Su, 2007; Li, 2020). Therefore, it is essential to advocate for good parenting styles, while further research is needed to explore the mechanisms of the impact of unfavorable parenting styles on children.

Regarding the classification of parenting styles, different scholars have varying perspectives. Symonds (1939) suggests that the classification of parenting styles should consider two fundamental elements: "acceptance-rejection" and "control-submissiveness." "Acceptance" refers to parental acceptance and relationships with their children, with extreme acceptance being overindulgence. "Rejection" involves a more denying attitude and treatment of children's behaviors and needs. Jiang (2010) classifies parenting styles into three dimensions: emotional warmth, rejection, and overprotection. This study adopts Jiang's classification, which includes three categories: emotional warmth, rejection, and overprotection.

Technological interference

At the level of technology use environments, ecological systems theory provides a comprehensive framework, suggesting that a child's development is influenced by interactions with the microsystems surrounding the child. Children live in an ecosystem of technology at the microsystem level, where factors such as family, peers, and schools have a direct impact on a child's technology usage. Elements like the types of technological devices in the household, parental supervision, and the extent to which children's attention is diverted can significantly affect the frequency of children's technology use (Lee & Chae, 2007; Zheng et al., 2023; Sudha et al., 2023).

In the process of socialization among children and adolescents, they tend to exhibit characteristics such as lower self-control, a strong desire for new technology use, and impulsivity (Han et al., 2017). Impulsivity, as a personality trait, is a significant factor leading to smartphone addiction in adolescents (Zhu et al., 2021; Jiang et al., 2018). Adolescents are more likely than adults to develop smartphone addiction problems (Chen et al., 2016). Smartphone addiction manifests specific

features similar to other addictive behaviors, including compulsiveness, loss of self-control, and engaging in harmful activities, profoundly impacting adolescents' social adaptability (Sahu & Sharma, 2019).

Although some scholars argue that moderate smartphone use can improve children's reading comprehension abilities (Jackson et al., 2006; Wulandari et al., 2023; Ranawaka et al., 2023), the risks of problematic smartphone use among children are significantly higher than in adults (Cha & Seo, 2018; Lee, Seo & Choi, 2016). The ubiquitous presence of smartphones changes children's living environments, making communication convenient, but it can also reduce their sense of happiness. Compared to adolescents who spend time on non-screen activities (such as social interactions), those who spend more time on screen-based activities (such as smartphones) tend to have lower psychological well-being (Twenge, Martin & Campbell, 2018). Excessive smartphone usage can also lead to sleep deprivation, weakened mental states, and even mental issues such as anxiety and depression (Thomée, 2018; Yang, Fu, Liao, 2020), which are highly detrimental to adolescent development.

The impact of technology use on children varies across different environmental contexts. Children with lower self-control tend to develop addictive tendencies when exposed to technology for extended periods, and the more sensitive children are to their environment, the more likely they are to experience technology-related interference symptoms (Liu, Qi, Zhou, 2021; Udriyah et al., 2019; Horani et al., 2023). Despite these challenges, technology use can also have positive effects on children's growth to some extent. For children from less privileged backgrounds or those with limited language skills, the time spent watching television has been found to positively correlate with academic performance, particularly after controlling for economic factors. Computer use, when economic factors are taken into account, can effectively enhance academic achievements (Jackson et al., 2006). In the present era, online education methods like remote learning can significantly foster students' self-directed learning abilities (Han, 2019). However, research has also indicated that children's smartphone usage frequency tends to be higher when their parents have lower levels of education (McCloskey et al., 2018). Therefore, the impact of children's technology use is not a simple dichotomy of positive or negative; it varies significantly based on different environmental factors.

Parental interference

Parental interference refers to the actions taken by parents to ensure that media, such as smartphones and computers, have a positive impact. Kelly Mendoza (2009) categorizes parental interference into three types: 1) restrictive mediation, 2) active mediation, and 3) co-use. Some scholars have further divided interference into five methods: 1) active mediation (parents actively engage with their children by explaining and discussing media content), 2) time restrictions (controlling the amount of time children spend on media to reduce its impact), 3) content restrictions (controlling media content to prevent exposure to inappropriate or age-restricted content), 4) co-use (parents participating in their children's media activities, engaging together), and 5) parental monitoring (parents tracking and managing their children's online activities).

Timely parental interference has a positive impact on a child's development. Douglas (2012) found that parental supervision can effectively reduce the negative effects of media on children, such as exposure to inappropriate content, violence, and disruptions to a child's development. It also plays a positive role in instilling good values and can increase awareness of online risks in adolescents, especially through restrictive mediation (Steinfeld, 2021; Tham et al., 2017; Pambreni et al., 2019; Herath et al., 2023).

Chen Yan and colleagues (2021) also found that active interference can effectively reduce the degree of smartphone addiction in adolescents. However, excessive control and interference can lead to children hiding their behavior and reduced communication between parents and children (Shin, 2011). Excessive parental protection can also lead to problematic internet use by children (Koronczai et al., 2020). Some studies suggest that open communication between parents and children about online experiences, encounters, and emotional issues contributes to better-quality parent-child relationships and reduces the risk of smartphone addiction (Hefner, Knop et al., 2018).

The mediation of technology interference

Parental emotional warmth can have an impact on children's technological distractions, and studies have shown that there is a two-way correlation between parent-child technological distractions, parental emotional warmth, dysfunctional attitudes, and depression, and that family parenting styles can greatly influence adolescents' tendency to become addicted to the Internet (Li, 2020). In terms of children's development, it has been found that adolescents who lack their mothers' emotional warmth have higher levels of negative automatic thinking (Ingram, Overbey, & Fortier, 2001), and adolescents with lower levels of parental emotional warmth are also prone to mental health problems, and high levels of parental emotional warmth can help to improve adolescents' mental health status and mood (Yang, 2020). state (Yang, 2020). Most research suggests that adolescents who are exposed to technological distractions are more likely to exhibit an increase in delinquent behaviors. Zhao (2022) found that Internet addiction in adolescents exacerbates depressive symptoms and aggressive behaviors over time, while depression can serve as a mediator in predicting adolescents' addiction to electronic devices such as cell phones (Deng, Wang, Yang, Zhou & Li, 2021) . Intense use of the Internet can also lead to adverse situations such as interpersonal conflict depression (Coyne et al.,2019). In addition, Zhao (2021) found that Internet addiction is a risk factor for suicidal behavior in adolescents with depression. Ruan (2022) also confirmed that Internet addiction is positively correlated with non-suicidal self-injury, which poses a threat to the overall health of adolescents. At the physical level, cell phone addiction also has the potential to contribute to the cervical spine subfertility epidemic (Tian,2019), and cell phone radiation has an inhibitory function on the metabolism of the prefrontal lobes of the human brain (Kwon MS, 2011). Overall, reducing technological interference between parents and children contributes to the process of healthy adolescent development（Table1）.

Table1

Author	Research variables	Finding
Han（2022）	Parenting styles, depression, technological distractions	Two-way correlations between parent-child technological interference, parental emotional

		warmth, dysfunctional attitudes, and depression
Li（2020）	Parenting styles, adolescent internet addiction, emotional intelligence	Parenting Style and Emotional Intelligence Predict Adolescent Internet Addiction, and Emotional Intelligence Partially Mediates the Relationship Between Parenting Style and Internet Addiction
Ingram, Overbey, & Fortier（2001）	Affinity, automatic thinking, emotions	Individuals with good Mother's affinity reported more positive thoughts and fewer negative thoughts than those with poor Mother's affinity. These data suggest that the level of automatic thinking in the environment may be partly responsible for the increased risk among those with poor Mother's affinities.
Yang（2020）	Middle school students, parental emotional warmth, mental health	Higher levels of parental emotional warmth are associated with better mental health among middle school students.
Deng (2021)	Teenagers, technological interference, parent-child conflict	Parental Anxiety/Depression Indirectly Predicts Adolescent Addiction to Electronic Devices such as Cell Phones through Multiple Mediation of Parent-Child Relationship and Adolescent Anxiety/Depression.
Coyne, Stockdale & Summers (2019)	Cell phone addiction, depression	Problematic cell phone use is fairly consistent during the transition from adolescence to adulthood and is associated with future depression.
Tian (2019)	Cell phone addiction, whiplash, health	Prolonged reading of computers, cell phones, books, etc. is one of the risk factors affecting cervical spine subhealth

The mediation of parental interference

Research has shown that interference can enhance college students' school adaptation by influencing their feelings of loneliness. Loneliness is closely related to parental parenting styles, and parental parenting styles may affect their children's adaptation by influencing their feelings of loneliness (Deng, 2021). At the same time, studies indicate that different types of interference are correlated with smartphone addiction to varying degrees, but it can be affirmed that parental interference helps reduce children's internet addiction and has a certain restrictive effect on children's internet addiction behavior (Peng, 2022).

Methodology

In this study, the primary focus is on Mother's parenting styles. In most households, mothers play a significant role in family management. This questionnaire collects data on how mothers' use of

either warm or rejecting parenting styles influences children's social behavior, with technology interference and parental interference serving as mediating variables (Azam et al., 2021; Azam et al., 2023).

The EMBU (Egma Minnen av Bardndosnauppforstran) is a questionnaire developed by Swiss scholars in the 1980s to assess parenting styles by recalling the way they have been treated since they were growing up (Perris et al., 1980). The questionnaire consists of four dimensions: Rejection, Emotional Warmth, Over Protection, and Favoring Subject. It assesses both the father and the mother, with a total of 81 questions. The Chinese version of the questionnaire was first revised in 1993 (Yue et al., 1993). This research employs the version of the questionnaire (EMBU) compiled by Swiss scholars to assess parental upbringing, specifically the Chiang revised parental parenting questionnaire (s-EMBU-C). It includes a total of 42 items, each measuring three dimensions for both fathers and mothers: Rejection (6 items), Emotional Warmth (7 items), and Over Protection (8 items). The parenting relationship is described, for example, "My parents don't allow me to do things other kids do because they're afraid something will happen to me." The questionnaire uses the "Rejection" and "Emotional Warmth" dimensions. The Cronbach's α coefficient for the "Emotional Warmth" related items obtained in the pre-test is 0.823, while for "Rejection," it is 0.812.

The Technology Disturbance Inventory Scale (TDIS) is a scale developed by McDaniel in 2014 to measure technology disturbance. In 2014 and 2018, it was adapted into five questions aimed at both parents and adolescents. Higher scores on this scale indicate a greater level of technology disturbance, for example, "I send messages to others when I am communicating face-to-face with my parents." The Cronbach's α coefficient for this scale, as obtained through pre-testing, is 0.789.

The questionnaire used an adapted version from Hefner et al. (2018) for parental interference, which includes 11 questions such as "My parents often talk to me or explain to me about my phone usage." The questionnaire is divided into four dimensions: positive parental interference, parental restriction, parental monitoring, and parental technical restrictions. According to previous research, the other three dimensions, aside from positive parental interference, are considered restrictive parental interference. A 5-point scale is used (1 = strongly disagree, 5 = strongly agree), and higher scores indicate a higher level of parental interference. The Cronbach's α coefficient for this scale, as obtained through pre-testing, is 0.758.

This study employed the Self-Rating Questionnaire of Strengths and Difficulties (SDQ) in its Chinese version. The SDQ, revised by Robert Goodman, was obtained from the official SDQ website (www.sdqinfo.com). It includes five dimensions: prosocial behavior, conduct problems, hyperactivity/inattention, emotional symptoms, and peer relationship problems. In this study, the assessment was conducted for the hyperactivity/inattention and conduct problems dimensions. The Cronbach's α coefficient for this scale, as obtained through pre-testing, is 0.724.

Demography Analytics

The subjects of this study were 450 primary and secondary school students in a certain county in Xinyang, China. After excluding all questionnaires with consistent or obviously false answers, a total of 432 valid questionnaires were collected, resulting in a valid response rate of 96%. Among

the respondents, there were 226 females, accounting for 52.3%, and 206 males, accounting for 47.7%. The questionnaire survey in this study was conducted anonymously, and a thorough explanation was provided before answering. Finally, the data was organized and analyzed using SPSS（Table2）.

Table2

Gender	Male	206	47.7
	Female	226	52.3
Age	12	89	20.6%
	13	197	45.6%
	14	111	25.7%
	15	35	8.1%
Educational level of mothers	Postgraduates	6	1.4%
	Bachelor's Degree or Specialization	19	4.4%
	Junior college or high school	91	21.1%
	Middle school	243	56.3%
	Primary and below	72	16.7%

Finding

Spearman correlation analysis of the variables revealed that Mother's rejection was significantly correlated with all other variables except for Mother's emotional warmth ($P<0.01$). However, Mother's emotional warmth exhibited higher significance in its correlation with parental interference, but lower significance in its correlation with social behavior and technological interference. Parental interference showed higher significance in its correlation with all variables except for technological interference ($P<0.01$).

Using SPSS 26.0 software for linear regression analysis, the following results are obtained （Table3）

The Durbin-Watson (D-W) value is 1.844, which is close to 2, indicating minimal autocorrelation in this study.In the ANOVA table, the P-value is 0.000, signifying that at least one independent variable has a significant impact on the dependent variable.The VIF value is 1.315, which is below 5, indicating the absence of multicollinearity issues.In Table 3:Transitioning from Model 1 to Model 2 results in a change in R^2 of 0.007.The change in Sig.F is 0.064, which is greater than 0.05, indicating low statistical significance.This suggests that the mediating effect of parental interference, acting as an intermediate variable, is not substantial.

Table3

Model Summary[c]

R	R^2			Change statistics	D-W

Model			Adjusted R^2	Standard Error	R^2 change	F change	Degrees of Freedom 1	Degrees of Freedom 2	Significance of F Change	
1	.285[a]	.081	.077	.54366	.081	18.787	2	425	.000	
2	.298[b]	.089	.082	.54209	.007	3.461	1	424	.064	1.871

a. Predictors: (Constant), Mother Emotional Warmth, Mother Rejection.

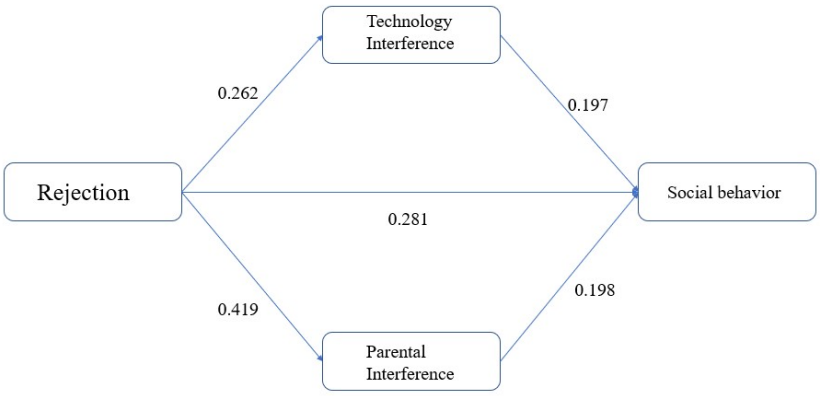
b. Predictors: (Constant), Mother Emotional Warmth, Mother Rejection, Parental Interference.

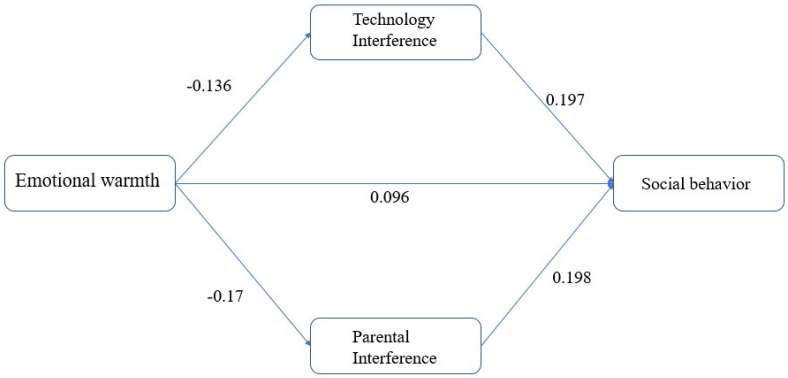
Technological interference

Using the same mediation analysis method for parental interference, linear regression analysis was conducted, and the following results were obtained:

It can be seen that the hierarchical regression analysis includes two models (the first model has two independent variables, and the second model involves two independent variables and a mediating variable). The R^2 value of the first model is 0.081, and the R^2 value of the second model is 0.096. When comparing the change from model 1 to model 2, where model 2 adds the mediating variable (technology interference) on the basis of model 1, the R^2 changes to 0.015, which shows significant differences (Sig.F change is 0.008). it can be seen that the P-value of the ANOVA test for both models is 0.000, which is less than 0.01, indicating that at least one independent variable has a significant impact on the dependent variable in both models. The model graph obtained through research is as follows（Figure 1）

Figure 1





Results of AMOS analysis

The results of the validated factor analysis showed that cmin/df = 1.637, CFI = 0.962, and RMSEA = 0.038 had good construct validity. The mediating effect was tested by Bootstrap method (5000 samples at 95% confidence interval) and the following results were obtained(Table4).

Table4

Paths	Unstandardized coefficient	Standardized coefficient	S.E.	C.R.	P
Emotional warmth → Technological Interference	-0.273	-0.182	0.091	-2.988	0.003
Technological Interference → Social Behavior	0.395	0.318	0.078	5.060	***
Emotional Warmth → Social Behavior	-0.387	-0.208	0.114	-3.406	***

According to the results, the total mediation effect value of the whole framework is -0.495, the value of science and technology interference as a mediation effect is -0.108, and the direct effect is -0.387, and the mediation effect of science and technology interference as a mediating variable is a partially mediated effect and the mediation effect is significant (β=0.108, P<0.01). The deviation correction intervals for the mediating effect and direct effect of technological interference are (-0.234~0.033) and (-0.620~-0.146) which do not include 0. Therefore, the mediating effect and direct effect of technological interference are both significant, and their respective proportions are 21.82% and 78.18% respectively(Table5).

Table5

	Point estimate	Product of coefficients	Bootstrap 5000 time 95%CI			
			Bias corrected	P	percentile	P

		SE	Lower	Upper		Lower	Upper	
IE（TI）	-0.108	0.049	-0.234	-0.033	0.003	-0.225	-0.028	0.004
DE	-0.387	0.120	-0.620	-0.146	0.003	-0.627	-0.151	0.003
TE	-0.495	0.123	-0.735	-0.248	0.001	-0.495	-0.746	0.000

The results of the validated factor analysis showed that cmin/df = 1.559, CFI = 0.968, and RMSEA = 0.036 had good construct validity. The mediating effect was tested by Bootstrap method (5000 samples at 95% confidence interval) and the following results were obtained(Table6).

Table6

Paths	Unstandardized coefficient	Standardized coefficient	S.E.	C.R.	P
Emotional Warmth → Parental Interference	-0.551	-0.274	0.125	-4.405	***
Parental Interference → Social Behavior	0.147	0.172	0.052	2.836	0.005
Emotional Warmth → Social Behavior	-0.375	-0.219	0.110	-3.398	***

According to the results, the total mediation effect value of the whole framework is -0.456, the value of parental interference as a mediation effect is -0.081, and the direct effect is -0.375, and the mediation effect of parental interference as a mediating variable is a partially mediated effect and the mediation effect is significant (β=0.081, P<0.01) but the mediation effect level is low. The deviation correction intervals of parental interference mediation effect and direct effect are (-0.204~0.022) and (-0.604~-0.140) both excluding 0. Therefore, both parental interference mediation effect and direct effect are significant and their respective percentages are 17.76% and 82.24%, but the mediation effect is poor(Table7).

Table7

	Point estimate	Product of coefficients	Bootstrap 5000 time 95%CI					
			Bias corrected		P	percentile		P
		SE	Lower	Upper		Lower	Upper	
IE(PI)	-0.081	0.043	-0.204	-0.022	0.003	-0.182	-0.016	0.006

DE	-0.375	0.118	-0.604	-0.140	0.002	-0.614	-0.152	0.001
TE	-0.456	0.119	-0.703	-0.230	0.000	-0.709	-0.234	0.000

The results of the validated factor analysis showed that cmin/df = 1.938, CFI = 0.942, and RMSEA = 0.047 had good construct validity. The mediating effect was tested by Bootstrap method (5000 samples at 95% confidence interval) and the following results were obtained (Table8).

Table8

Paths	Unstandardized coefficient	Standardized coefficient	S.E.	C.R.	P
Mother's Rejection → Technological interference	0.351	0.332	0.070	5.024	***
Technological Interference → Social Behavior	0.335	0.253	0.084	3.977	***
Mother's Rejection → Social Behavior	0.449	0.322	0.092	4.908	***

According to the results, the total mediation effect value of the whole framework is 0.567, the value of science and technology interference as a mediation effect is 0.118, and the direct effect is 0.449, and the mediation effect of science and technology interference as a mediating variable is a partially mediated effect and the mediation effect is significant (β=0.118, P<0.01). The deviation correction intervals for the mediating effect and direct effect of technological interference are (0.054~0.218) and (0.049~0.206) both excluding 0. Therefore, the mediating effect and direct effect of technological interference are both significant and their respective percentages are 20.81% and 79.19%, respectively(Table9).

Table9

	Point estimate	Product of coefficients	Bootstrap 5000 time 95%CI					
			Bias corrected		P	percentile		P
		SE	Lower	Upper		Lower	Upper	
IE(TI)	0.118	0.070	0.054	0.218	0.000	0.049	0.206	0.001
DE	0.449	0.084	0.254	0.669	0.000	0.256	0.671	0.000
TE	0.567	0.092	0.380	0.776	0.000	0.380	0.776	0.000

The results of the validated factor analysis showed that cmin/df = 1.664, CFI = 0.962, and RMSEA = 0.039 had good construct validity. The mediating effect was tested by Bootstrap method (5000 samples at 95% confidence interval) and the following results were obtained(Table10).

Table10

Paths	Unstandardized coefficient	Standardized coefficient	S.E.	C.R.	P
Mother's rejection → parental interference	0.794	0.531	0.099	8.024	***
Parental interference → social behavior	0.021	0.023	0.066	0.323	0.746
Mother's rejection → social behavior	0.556	0.396	0.110	5.042	***

According to the results, the total mediation effect value of the whole framework is 0.573, the value of parental interference as a mediation effect is 0.017, and the direct effect is 0.556, and the mediation effect of parental interference as a mediating variable is partially mediated and the mediation effect is not significant (β=0.017, P=0.805>0.01). The deviation correction intervals for the mediating effect of parental interference and the direct effect were (-0.088 to 0.142) including 0 and (0.337 to 0.796) excluding 0. Therefore, the mediating effect of parental interference was not significant, and the respective percentages of the mediating effect of parental interference and the direct effect as a whole were 2.97% and 97.03%, respectively(Table11).

Table11

	Point estimate	Product of coefficients	Bootstrap 5000 time 95%CI					
			Bias corrected		P	percentile		P
		SE	Lower	Upper		Lower	Upper	
IE(PI)	0.017	0.099	-0.088	0.142	0.711	-0.096	0.131	0.805
DE	0.556	0.066	0.337	0.796	0.000	0.339	0.805	0.000
TE	0.573	0.110	0.389	0.787	0.000	0.386	0.784	0.000

Discussion

Based on the study results, Mother's Rejection significantly predicts adolescent social behavior, technology interference, and parental interference. Parental emotional warmth significantly negatively predicts mobile phone dependency (Xu, 2020). However, the significance of Mother's

Emotional Warmth in predicting adolescent social behavior is not very high (with a p-value of 0.048) and the correlation is -0.096, which suggests a weak correlation. This may be due to the fact that contemporary China has adopted stricter regulations and standards for the use of online games and similar activities. If individuals do not need to seek alternative ways to express or vent their emotions, there is often no need to resort to higher-cost activities like online gaming.

In this study of the effects of two parenting styles on adolescent social behavior in the face of different mediating variables, technological interference and parental interference significantly predicted adolescent social behavior, in line with expectancy-violation theory (Burgoon, 1993). Parenting styles, attitudes, habits, and experiences can significantly influence children's electronic device use and addiction (Konok, Bunford & Miklósi, 2020). The use of electronic devices takes away the cognitive resources of parents to maintain good interpersonal interactions with their children, and in the model of the mother's education of her children, the influence of technological products, such as the Internet, leads to irrational thoughts between the child and the mother and, therefore, to undesirable social behaviors. It is also evident from the results that technological interference plays a mediating role in the mother's parenting style and adolescent social behavior. With the conflict between children's need for electronic products such as cell phones and parenting styles, children can only seek extreme behaviors or diversionary emotional outbursts, and cell phone addiction leads to undesirable emotions and stress (Xie, 2016). From the results of AMOS, the mediating effect of technological interference as a mediating variable is significant, in the mediating effect of technological interference between mothers' emotional warmth and adolescents' social behaviors (β=0.108, P<0.01) is significant, and between mothers' rejection and adolescents' social behaviors (β=0.118, P<0.01) is also significant, and all of them are partial mediating effects.

In this study, it can be seen that parental interference has a low significance after the interaction of the two models (0.064 change in Sig. F), which is less appropriate as a mediating variable, but it can be seen from the correlation that parental interference has an impact on parenting styles as well as adolescent social behavior. From the analysis of AMOS, the mediating effect of parental interference in mother's emotional warmth and adolescent's social behavior was significant (β=0.081, P<0.01), but the mediating effect was low, only -0.081, which accounted for 17.76. Meanwhile, the mediating effect of parental interference in mother's rejection and adolescent's social behavior (β=0.017, P=0.805>0.01) was not significant, accounting for only 2.97%. This shows that the mediating effect of parental interference in mother's parenting style and adolescent social behavior is poor.

Conclusions and Recommendations

This study, based on survey data from a certain city in China, explores the mechanisms by which parenting styles influence children's social behavior. The main conclusions are as follows:

Firstly, Mother’s parenting style significantly influences children's social behavior. Among the two parenting styles examined in this study, Mother’s rejection has a more pronounced impact on children compared to Mother’s emotional warmth. Therefore, in family education, mothers should

consider employing a balanced parenting approach that combines both discipline and emotional warmth, rather than making choices based solely on personal preferences or temperament. Neglecting children or using overly permissive parenting methods can lead to problems such as rebellion and aggressive behavior（Kawabata，Alink，Tseng，Van Ijzendoorn& Crick，2011）.

Secondly, technology interference, as an essential factor in the family environment, should not be overlooked. Parents should acknowledge its presence and understand the impact it has. In the current family context, mothers should take steps to reduce the influence of technology interference on their children, particularly to mitigate its effects on their children's emotional well-being, such as the impact of depression（Han,2022）.

Thirdly, although parental interference may not play a very significant mediating role within the overall framework, it is significantly associated with adolescent social behavior and should be given due attention.

Suggestion for future research

This study found that parents need to learn how to be parents, and schools should strengthen the collaboration between families and schools. The family is the child's first school, and parents are their first teachers, exerting a significant influence on the foundation of a child's growth. Positive parenting methods, characterized by emotional warmth, contribute to the development of better social adaptation in children. Conversely, negative parenting methods, characterized by rejection, are significantly associated with undesirable social behavior in children. Therefore, when parents are exploring better ways to communicate with their children, they should employ positive parenting methods more frequently.

The previous research has found that living with both parents is better for children than living with either a single father or mother (Zhang,2021). In Chinese families, the dominant model is "the man works outside, and the woman manages the household." Therefore, in families, where children spend more time with their mothers, mothers play a crucial role in their children's education. It's essential for mothers to adopt parenting styles that involve more warm emotional communication, which can contribute to better social adaptation in children.

Thus, parental interference, as a direct means of confronting children's poor social behavior, has a significant impact on adolescent social behavior, but maintaining the same parenting style to stimulate interference should not be used as an effective way to influence children's social behavior. In addition to parental interference and technological interference, there may be many factors that influence adolescent social behavior, and parents should be more aware of the risks that various behaviors pose to their children in order to avoid undesirable behaviors.

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