

Is there a relationship between parenting style and the formation of adolescent personality traits? Take Chinese high school students as an example.

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Abstract:

A total of 130 Chinese high school students participated in the study. A comprehensive set of analytical methods was employed to investigate the association between parental rearing styles and adolescent personality traits. These methods included a questionnaire survey, a normality test, correlation analysis, and linear regression analysis. The assessment of participants' personalities was conducted utilising the Big-Five and EMBU scales. The EMBU scale was utilised to ascertain the participants' parenting styles. The study concluded that there was a significant correlation between the two, and that affective warmth parenting is conducive to the cultivation of positive personality traits. In contrast, the act of rejecting parents engenders a contrary response. The correlation between the two is subject to significant variation due to gender differences. The present study sought to ascertain the correlation between the personality characteristics of female adolescents and their parenting style. The results of the study indicated a stronger correlation between the two variables than was hypothesised. The amount of time parents spend with their children has also been demonstrated to have a significant impact. A robust correlation between these factors has been demonstrated, with increased parental engagement with their children being a key predictor of enhanced outcomes. Despite the study's limitations, including a modest sample size susceptible to subjective influences and an inability to ascertain causality, it addresses a significant research gap concerning Chinese adolescents. Further studies are required to promote the healthy development of adolescent personality.

Keywords: Parenting style Adolescent personality traits
Relevance Gender difference Parental time EMBU Big-Five

1.Introduction

By 2024, it is estimated that approximately 1 billion people worldwide will be living with a mental health condition (World Health Organization, 2021). The global prevalence of mental health problems in adolescents has increased to between 10% and 20%. According to The Lancet Psychiatry (2024), this mental illness constitutes a significant health and social problem, affecting young people's lives and futures, and it has now entered a dangerous phase. This has prompted the World Health Organization (2024) to direct its attention to the psychological well-being of adolescents. Research has indicated a close relationship between these issues and the family of origin (Zhang, 2020), with the influence of the family of origin impacting not only children's mental health, but also their perspectives on marriage and love (Gao, 2019).

A personality trait is defined as an individual's tendency to exhibit consistent behaviour patterns in different situations and over time. It is a relatively stable, long-term personality characteristic and fundamental component of human behaviour that can be subject to change due to biological, environmental or personal growth factors (Roberts & Brent, 2005).

In contemporary society, the incidence of conflict between parents and children is increasing. A survey conducted by China Youth Daily indicates that such conflicts are escalating in severity. The survey revealed that 69.6% of adolescents experience frequent conflict with their parents, 8.9% encounter occasional conflict, and 1% encounter an inability to communicate with their parents. The repercussions of these conflicts can be profound, manifesting in the form of mental illness in some children. Consequently, it is imperative to identify the underlying causes of these contradictions and to resolve them.

The present study therefore examines the relationship between parenting style and adolescent personality traits, focusing on Chinese high school students. Questionnaires and variance analysis were utilised to collect and analyse the data. The present study focuses on the relationship between parenting style and adolescent personality traits.

2.Literature review

2.1 Psychological scale

2.1.1 Big-Five

As demonstrated in the research conducted by Soc et al. (2014), the Big-Five short form (comprising 10 questions) is...

The objective of the present study is to identify the personality traits exhibited by adolescents. The latter are comprised of five distinct personality traits. The following

personality traits are to be considered: extraversion, neuroticism, openness, agreeableness, and conscientiousness. The results of the study demonstrated that individuals who obtained high scores on the Extraversion dimension were characterised by their sociable and energetic nature, in addition to their capacity to achieve established goals. Conversely, subjects who obtained low scores on the Extraversion dimension were identified as being more introverted, conservative, and more inclined to obey authority. Individuals who exhibit high levels of Openness are characterised by their affinity for novelty and a propensity towards creativity. It has been observed that individuals who obtain lower scores tend to demonstrate more conventional modes of thinking, accompanied by a distinct sense of right and wrong. Individuals who exhibit high levels of agreeableness tend to be characterised by their amiable, empathetic, and enthusiastic dispositions. Conversely, those who are introverted, mistrustful, and self-centred tend to demonstrate lower levels of agreeableness. The Conscientiousness dimension is a measure of an individual's degree of organisation. It is a well-documented fact that individuals who attain elevated scores characteristically exhibit heightened levels of motivation, self-discipline, and trustworthiness. Conversely, those who demonstrate irresponsible tendencies and an inability to sustain concentration frequently attain lower scores. The Neuroticism dimension is a measure of emotional stability. Individuals who achieve elevated scores frequently exhibit symptoms of anxiety, depression, emotional instability, and a deficiency in confidence. Participants who obtained lower scores reported higher levels of calmness, confidence, and contentment.

2.1.2 EMBU

Research undertaken by Arrindell et al. (1999)¹ has demonstrated that the use of the short form of the Early Childhood Behavioural Scale (ECBS), namely the EMBU, is a valuable tool for the assessment of juvenile parenting styles. The ECBS comprises 23 questions and has been found to measure three distinct parenting style dimensions. The themes of rejection, emotional warmth, and overprotection are of particular interest in this study. It has been demonstrated that parents of the Rejection type characteristically employ stringent punitive measures in order to regulate their offspring's behaviour. In addition to this, these parents tend to demonstrate a paucity of attention with respect to the underlying reasons and psychological needs that may underpin their children's behaviour. For instance, in the event of an accidental breakage, the child may be subjected to severe reprimand or corporal punishment, as opposed to guidance aimed at fostering an understanding of the wrong nature. In their daily interactions,

parents demonstrate unwavering care and support for their children. They demonstrate a willingness to actively listen to their children's thoughts and feelings, respect their children's individual personalities and choices, and provide encouragement and emotional support during periods of adversity or setbacks, thereby fostering a sense of familial warmth and safety. Protective parents have been shown to interfere excessively in their children's lives, arranging and participating in every detail personally, with the aim of eliminating all possible difficulties and setbacks for their children. However, this may also result in children lacking the opportunity to face and solve problems independently.

2.1 The relationship between adolescent mental health, parenting style and adolescent personality traits

The impact of parenting styles on children's mental health has been the subject of extensive research. For instance, one may cite Rezvan and D'Souza's study from 2017. The present study focused on adolescents in and around the city of Mysore. The Parental Authority Questionnaire was used to conclude that developmental stages have a significant impact on general health in both early and late adolescence. Merlin et al. posit that a parenting style characterised by instruction is conducive to the developmental outcomes of children, with a concomitant emphasis on parental support and structure. Moreover, a nationally representative cross-sectional survey of adolescents in the United States discovered an association between parenting style and mental disorders in the past year. The study, conducted by Lohaus, Vierhaus, and Ball (2008), found that parental care and control were associated with adolescent mental disorders, after controlling for multiple confounding factors.

In the field of adolescent psychiatry, the correlation between personality traits and mental health in a representative birth cohort has been a subject of considerable research interest. A seminal study undertaken by Krueger (1996) utilised the Multidimensional Personality Questionnaire to evaluate a sample of 897 individuals, thereby identifying a robust association between specific personality traits and the presence of mental disorders. The demonstration of individual personality differences is instrumental in the comprehension of severe psychopathological manifestations. A 2006 study from Osaka University further demonstrated this correlation by using the Big Five Personality Inventory to assess the ability to maintain mental health in challenging or threatening environments.

2.2 Previous research on the relationship be-

tween parenting traits and personality traits

2.2.1 The influence of parenting style on children (different factors)

It has been demonstrated in previous studies that an investigation into the impact of parenting styles is of significance. Pattamannil (2010) conducted a study. A study of 6,626 Canadian children aged 5-18 found that family SES, parental encouragement, expectations, and beliefs significantly positively predicted children's academic achievement, after controlling for family SES variables. Mamat et al. (2011) The study comprised 200 dual-income families. The conclusion drawn was that authoritative parenting exerts a positive influence on children's behaviour and academic achievement, whilst the impact of delegating and authoritarian parenting is detrimental. Furthermore, in the context of Asian students, the paternal parenting style has been found to be associated with the independence of Malay adolescents, while the maternal parenting style has been demonstrated to influence the children's attitude towards school. Sarwar, (2016) A qualitative approach was adopted for the purpose of conducting in-depth interviews with two mothers of children exhibiting problematic behaviour. Despite the modest sample size, the findings of this study offer a valuable insight into the relationship between parenting style and adolescent behaviour. Alizadeh et al. (2011) It was posited that the parenting style within a family unit exerts a direct influence on the behavioural tendencies and symptoms exhibited by children. This study concluded that parenting style is related to children's behaviour. This finding is based on the follow-up of 196 children aged 5-6 years from kindergarten six times and the assessment of 113 children at different ages. Furthermore, it underscores the necessity to take into account both child and environmental factors when investigating behavioural problems in children and adolescents.

2.2.2 The relationship between parenting style and personality traits

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2.3 Summary of previous research on this topic

A number of earlier studies have also explored the relationship between parenting styles and parental personality traits. This provides both research ideas and a certain theoretical basis for Huver et al.'s study (2009).

A substantial corpus of literature has previously been published on the relationship between parenting styles and personality traits. This includes studies by Reti et al. (2019). In the case of 742 community individuals, NEO, PBL, TCL and other scales were used to analyse the contribution of childhood parenting experiences to subsequent personality traits. The present study hypothesises that the influence of parenting on the subsequent development of personality disorder may be mediated by associations between parenting and typical personality traits. In their 2012 study, Technol et al. examined the relationship between parenting styles and personality dimensions. Naghashian's research utilised a randomised sample of 272 students from a national university, who completed the Parenting Styles Questionnaire and the Five-Factor Personality Factors Questionnaire. This study aimed to explore the relationship between parenting styles and personality traits. It was concluded that, among all the components of personality, there is a direct and significant relationship only between the Openness personality trait and the authoritative parenting style. In other words, the authoritative parenting style is correlated with the development of the Openness trait components. In addition, an article by Technol et al. (2012) examined the relationship between the Big Five personality dimensions and the differential positivity and negativity in parenting. The

analyses were based on a sample of 867 children, who were nested within 381 families. Multilevel modelling was employed, with adjustments made for factors such as child age, gender, birth order, behaviour, and family socioeconomic status. This analysis yielded the conclusion that parental personality exerts a modest yet significant influence on the conceptualisation of DP (Depersonalisation Disorder) sources.

3. Methodology

3.1 The psychological scale used

3.1 Research Objectives

The present study analyses the relationship between family parenting styles and adolescent parenting traits. The investigation will entail the administration of independent surveys, employing questionnaires as a means of examining the various parenting styles and personality traits. This will subsequently facilitate the utilisation of the collected data for the analysis of the relationship between parenting styles and personality traits, thereby enabling the formulation of research conclusions.

3.2 Participants

The participants comprised 77 female high school students (59.2%) and 53 male high school students (40.8%) from China, who were enrolled in both the international curriculum system and the college entrance examination curriculum system. A total of 131 high school students participated in the survey, and 130 of these were deemed to be valid samples.

3.3 Procedure

The dissemination of the questionnaire was initiated through two channels: the utilisation of social media for its circulation, and the placement of promotional posters on campus, with the objective of acquiring a substantial sample of high school students who met the criteria for participation in the study. The participants were informed of the purpose of the questionnaire survey. The participants were informed that the data would be anonymous and would be used exclusively for academic purposes. Following the thorough perusal of the consent form, participants were at liberty to elect to participate in the survey by checking the "agree/disagree" option. Concurrently, we screened valid and invalid data through the questionnaire filling time and consent form options in the background.

3.4 Measures

The present study investigates the relationship between parenting styles and personality traits using a question-

naire survey. The survey incorporates two brief psychological scales: the EMBU short form (Arrindell et al., 1999) and the Big Five Personality Inventory (TIPI) (Romero et al., 2012). The EMBU short form consists of three sub-dimensions: The following variables were measured on a 4-point scale: Rejection (7 items), Emotional Warmth (6 items), and Overprotection (9 items). The scale ranged from 1 (never) to 4 (most of the time). The 17th question is reverse-scored, with scores for each sub-dimension being summed. The dimension that attained the highest score is indicative of the predominant parenting style. The Big Five Personality Inventory is a 10-item questionnaire which is used to assess personality traits. This questionnaire is divided into five dimensions: The following six personality traits were measured using a 7-point scale: extraversion (2 items), agreeableness (2 items), conscientiousness (2 items), emotional stability (2 items), and openness to experience (2 items). Participants were asked to rate each item on a scale ranging from 1 (strongly disagree) to 7 (strongly agree). Questions 2, 4, 6, 8, and 10 are reverse-scored. The dimension that attains the highest score is indicative of the individual's predominant personality trait. The utilisation of abbreviated forms has been demonstrated to enhance the efficiency of sample collection, thereby ensuring superior response rates. The effectiveness of these scales has been previously validated (Smith, 2019). Prior to the implementation of linear regression and correlation analysis, a test of normality is to be conducted in order to ensure the validity of the subsequent statistical analysis. The relationship between parenting and adolescent personality traits will be examined using these data models, implemented with SPSSAU software.

3.5 Statistical Analysis

Firstly, a normality test is conducted in order to verify the feasibility of subsequent linear regression and correlation analysis of the data. Subsequently, an investigation is conducted into the correlation between family parenting traits and adolescent personality traits, utilising linear regression and correlation analysis data models. The input data of the models are the quantitative data statistics results of two psychological scales. These analyses are conducted utilising the SPSSAU software. In accordance with the findings of Abdul Azis et al., the

ICC of the BFI-10 ranges from 0.401 to 0.790.

4.Result&Discussion

4.1 Results

In the data research, normality test, correlation and linear regression data models were employed to explore the relationship between family parenting styles and personality traits.

Firstly, it is evident from the normality test results of parenting styles and personality traits (Tables 1 and 2) that both sets of results have a kurtosis less than 10 and a skewness less than 3. Consequently, this dataset can be considered to be normally distributed. Consequently, it can be concluded that parenting styles and personality traits exhibit a normal distribution, which can be analysed using correlation and regression analysis.

The bivariate correlation analysis indicates that, in the entire sample, a correlation was identified between personality traits and parenting style. The present study sought to ascertain the correlation between agreeableness and rejection. The results of the study indicated a negative correlation between the two, with a significance level of $p < 0.01$ and a r value of -0.329 . Furthermore, the study found a positive correlation between conscientiousness and emotional warmth, with a significance level of $p < 0.01$ and a r value of 0.314 . However, the study did not find a significant correlation between personality traits and overprotection. As illustrated in Table 3, the correlations between all sample data and the three parenting styles of Rejection, Emotional Warmth and (over)Protection, as well as the five personality traits of Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness to Experiences are demonstrated. The present study sought to investigate the relationship between the rejection parenting style and the agreeableness personality trait. The results of the study indicated a negative correlation between the two, with a significance level of $p < 0.01$ and a r value of -0.329 . This suggests that children who are exposed to a greater amount of rejection parenting are less likely to exhibit the characteristics of the rejection personality trait. The present study found a positive correlation between emotional warmth style and conscientiousness style ($r=0.314$, $p<0.01$). Consequently, conscientious teenagers are more likely to be exposed to emotionally warm parenting styles.

Table 1 Personality Traits

Normality test									
Name	Sample size	average value	Standard deviation	Skewness	Kurtosis	Kolmogorov-Smirnov Inspection		Shapiro-Wilk Inspection	
						Statistical quantity D value	p	Statistical quantity W value	p
Extraversion	130	8.185	2.975	-0.037	-0.830	0.104	0.002**	0.971	0.007**
Agreeableness	130	10.485	2.259	-0.313	-0.286	0.110	0.001**	0.954	0.000**
Conscientiousness	130	8.431	2.699	-0.122	-0.474	0.096	0.005**	0.980	0.055
Emotional Stability	130	8.254	2.671	0.107	-0.333	0.099	0.003**	0.975	0.017*
Openness to Experiences	130	10.162	2.483	-0.354	-0.593	0.132	0.000**	0.958	0.000**
* $p < 0.05$ ** $p < 0.01$									

Table 2 Parenting Style

Normality test									
Name	Sample size	Average value	Standard deviation	Skewness	Kurtosis	Kolmogorov-Smirnov Inspection		Shapiro-Wilk Inspection	
						Statistical quantity D value	p	Statistical quantity W value	p
Rejection	130	10.454	3.862	1.684	2.652	0.201	0.000**	0.803	0.000**
Emotional Warmth	130	16.508	3.787	-0.148	-0.308	0.076	0.061	0.986	0.224
(Over)Protection	130	20.600	5.711	0.565	-0.217	0.118	0.000**	0.962	0.001**
* $p < 0.05$ ** $p < 0.01$									

Table 3 Personality traits & Parenting Style

Pearson correlation study					
	Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness to Experiences
Rejection	-0.096	-0.329**	-0.269**	-0.280**	-0.200*
Emotional Warmth	0.139	0.181*	0.314**	0.216*	0.274**
(Over)Protection	-0.015	-0.262**	-0.249**	-0.254**	-0.152
* $p < 0.05$ ** $p < 0.01$					

Tables 4 and 5 present the comparative analysis results based on gender. In the correlation study of the female samples, there are significant differences in the two-factor correlations when compared with the all-sample correlation. The present study sought to ascertain the correlation between agreeableness, conscientiousness and emotional stability, and rejection. The results of the study indicated a negative correlation between agreeableness and rejection ($r = -0.313$, $p < 0.01$), conscientiousness and rejection ($r =$

-0.314 , $p < 0.01$), and emotional stability and rejection ($r = -0.340$, $p < 0.01$). The following correlations were identified: Agreeableness positively correlated with Emotional Warmth ($r = 0.303$, $p < 0.01$). Conscientiousness positively correlated with Emotional Warmth ($r = 0.390$, $p < 0.01$). Emotional Stability negatively correlated with (Over)Protection ($r = -0.339$, $p < 0.01$). A substantial disparity has been identified in the correlation study of the male and female samples. Specifically, Agreeableness demonstrated

a negative correlation with Rejection ($r = -0.349$, $p < 0.05$), and Openness to Experiences exhibited a negative correlation with Rejection ($r = -0.350$, $p < 0.05$). A significant body of research has identified significant differences in the personality traits of adolescents, namely Agreeableness, Conscientiousness, Emotional Stability, and Rejec-

tion with Emotional Warmth. Evidence suggests that gender exerts a substantial influence on parenting styles and personality traits. The present study demonstrates a higher correlation between female personality traits and family parenting styles.

Table 4 Female, Sample size: 77

Pearson correlation study					
	Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness to Experiences
Rejection	-0.166	-0.313**	-0.314**	-0.340**	-0.112
Emotional Warmth	0.177	0.303**	0.390**	0.132	0.283*
(Over)Protection	-0.151	-0.377**	-0.244*	-0.339**	-0.117
* $p < 0.05$ ** $p < 0.01$					

Table 5 Male, Sample size: 53)

Pearson correlation study					
	Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness to Experiences
Rejection	-0.002	-0.349*	-0.193	-0.181	-0.350*
Emotional Warmth	0.100	-0.064	0.183	0.291*	0.281*
(Over)Protection	0.163	-0.000	-0.232	-0.049	-0.228
* $p < 0.05$ ** $p < 0.01$					

Tables 6 to 9 present the results of the samples selected for correlation analysis, with the selection based on the control of the time parents spent accompanying teenagers. A more relevant dataset was collected in the correlation analysis of the longer time spent with parents compared to the shorter time spent with parents. The significant correlations, including Agreeableness and Rejection, exhibited a substantial positive correlation ($r = -0.432$, $p < 0.01$). However, a notable correlation was identified in the statistical analysis of the reduced duration of interaction with parents, both in cases where parents were present for

a limited amount of time and in cases where they were not present at all. In the analysis of samples with shorter time spent with parents, Conscientiousness and Emotional Warmth were positively correlated ($r = 0.400$, $p < 0.01$). Conversely, in the analysis of extremely short time spent with parents, Emotional Stability and Rejection were significantly negatively correlated ($r = -0.788$, $p < 0.01$). In other words, the degree to which parents adopt an Emotional Stability parenting style is positively correlated with the reduced manifestation of Rejection traits among their teenagers.

Table 6 Having a long time spent with parents

Pearson correlation study					
	Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness to Experiences
Rejection	0.003	-0.172	-0.381	-0.361	-0.282
Emotional Warmth	-0.255	0.012	0.391	0.314	0.395
(Over)Protection	0.149	-0.121	-0.279	-0.339	-0.401
* $p < 0.05$ ** $p < 0.01$					

Table 7 Have spent a considerable amount of time with parents

Pearson correlation study					
	Extraver- sion	Agreeableness	Conscientiousness	Emotional Stabili- ty	Openness to Experiences
Rejection	-0.253	-0.432**	-0.305*	-0.262	-0.324*
Emotional Warmth	0.304*	0.043	0.148	0.301*	0.213
(Over)Protection	-0.088	-0.307*	-0.257	-0.125	-0.061
* p<0.05 ** p<0.01					

Table 8 Having short time spent with parents

Pearson correlation study					
	Extraver- sion	Agreeableness	Conscientiousness	Emotional Stabili- ty	Openness to Experiences
Rejection	0.047	-0.317*	-0.158	-0.220	-0.075
Emotional Warmth	0.184	0.323*	0.400**	0.043	0.228
(Over)Protection	0.019	-0.323*	-0.230	-0.300*	-0.104
* p<0.05 ** p<0.01					

Table 9 Have very little time to spend with parents

Pearson correlation study					
	Extraver- sion	Agreeableness	Conscientiousness	Emotional Stabili- ty	Openness to Experiences
Rejection	-0.077	-0.086	-0.448	-0.788**	-0.070
Emotional Warmth	-0.204	0.339	0.366	0.145	0.484
(Over)Protection	-0.367	-0.235	-0.333	-0.598	-0.257
* p<0.05 ** p<0.01					

In Tables 10 to 14, the variables controlling each personality trait were analysed using the data analysis model of multiple linear regression to determine the degree of correlation between different family upbringing relationships and personality traits. The model incorporating Agreeableness and Conscientiousness as dependent variables demonstrated a satisfactory degree of fit (see Tables 11 and 12). The Rejection type of upbringing was found to have a detrimental effect on Agreeableness ($R^2 = 0.114$, p

< 0.05), while the Emotional Warmth type of upbringing was found to have a positive effect on Conscientiousness ($R^2 = 0.126$, $p < 0.05$). As illustrated in Table 14, a correlation was identified between Openness to Experiences and Emotional Warmth. Despite the overall correlation between the two variables being deemed insignificant ($R^2 = 0.082$), the Emotional Warmth type of upbringing was found to have a positive influence on Openness to Experiences.

Table 10 Personality traits & Parenting Style(Dependent variable = Extraversion)

Linear regression analysis results (n = 130)							
	Non-standardized coefficient		Standardized coefficient	<i>t</i>	<i>p</i>	Collinearity diagnosis	
	<i>B</i>	Standard error	<i>Beta</i>			VIF	Tolerance
Constant	6.367	1.969	-	3.233	0.002**	-	-
Rejection	-0.072	0.093	-0.093	-0.773	0.441	1.891	0.529

Linear regression analysis results (n = 130)							
	Non-standardized coefficient		Standardized coefficient	t	p	Collinearity diagnosis	
	B	Standard error	$Beta$			VIF	Tolerance
Emotional Warmth	0.099	0.078	0.126	1.267	0.207	1.275	0.784
(Over)Protection	0.046	0.060	0.087	0.765	0.446	1.690	0.592
R^2	0.025						
Adjusted R^2	0.002						
F	$F(3,126)=1.081, p=0.360$						
D-W value	2.325						
Note: Dependent variable = Extraversion							
* $p<0.05$ ** $p<0.01$							

Table 11 Personality traits & Parenting Style(Dependent variable = Agreeableness)

Linear regression analysis results (n = 130)							
	Non-standardized co-efficient		Standardized coefficient	<i>t</i>	<i>p</i>	Collinearity diagnosis	
	<i>B</i>	Standard error	<i>Beta</i>			VIF	Tolerance
Constant	12.452	1.426	-	8.731	0.000**	-	-
Rejection	-0.152	0.067	-0.260	-2.256	0.026*	1.891	0.529
Emotional Warmth	0.019	0.056	0.032	0.341	0.734	1.275	0.784
(Over)Protection	-0.034	0.043	-0.085	-0.781	0.436	1.690	0.592
<i>R</i> 2	0.114						
Adjustment <i>R</i> 2	0.093						
<i>F</i>	<i>F</i> (3,126)=5.394, <i>p</i> =0.002						
D-W value	1.904						
Note: Dependent variable = Agreeableness							
* <i>p</i> <0.05 ** <i>p</i> <0.01							

Table 12 Personality traits & Parenting Style(Dependent variable = Conscientiousness)

Linear regression analysis results (n = 130)							
	Non-standardized coefficient		Standardized coefficient	<i>t</i>	<i>p</i>	Collinearity diagnosis	
	<i>B</i>	Standard error	<i>Beta</i>			VIF	Tolerance
Constant	7.413	1.692	-	4.380	0.000**	-	-
Rejection	-0.064	0.080	-0.092	-0.801	0.425	1.891	0.529
Emotional Warmth	0.167	0.067	0.234	2.492	0.014*	1.275	0.784
(Over)Protection	-0.052	0.051	-0.110	-1.015	0.312	1.690	0.592
<i>R</i> 2	0.126						
Adjustment <i>R</i> 2	0.105						
<i>F</i>	<i>F</i> (3,126)=6.041, <i>p</i> =0.001						

Linear regression analysis results (n = 130)							
	Non-standardized co-efficient		Standardized coefficient	<i>t</i>	<i>p</i>	Collinearity diagnosis	
	<i>B</i>	Standard error	<i>Beta</i>			VIF	Tolerance
D-W value	2.081						
Note: Dependent variable = Conscientiousness							
* <i>p</i> <0.05 ** <i>p</i> <0.01							

Table 13 Personality traits & Parenting Style(Dependent variable = Emotional Stability)

Linear regression analysis results (n = 130)							
	Non-standardized co-efficient		Standardized coefficient	<i>t</i>	<i>p</i>	Collinearity diagnosis	
	<i>B</i>	Standard error	<i>Beta</i>			VIF	Tolerance
Constant	9.336	1.703	-	5.484	0.000**	-	-
Rejection	-0.109	0.081	-0.157	-1.348	0.180	1.891	0.529
Emotional Warmth	0.073	0.067	0.103	1.079	0.283	1.275	0.784
(Over)Protection	-0.056	0.051	-0.119	-1.083	0.281	1.690	0.592
<i>R</i> 2	0.097						
Adjustment <i>R</i> 2	0.075						
<i>F</i>	<i>F</i> (3,126)=4.492, <i>p</i> =0.005						
D-W value	2.256						
Note: Dependent variable = Emotional Stability							
* <i>p</i> <0.05 ** <i>p</i> <0.01							

Table 14 Personality traits & Parenting Style(Dependent variable = Openness to Experiences)

Linear regression analysis results (n = 130)							
	Non-standardized co-efficient		Standardized coefficient	<i>t</i>	<i>p</i>	Collinearity diagnosis	
	<i>B</i>	Standard error	<i>Beta</i>			VIF	Tolerance
Constant	8.422	1.595	-	5.279	0.000**	-	-
Rejection	-0.052	0.075	-0.080	-0.684	0.495	1.891	0.529
Emotional Warmth	0.150	0.063	0.229	2.379	0.019*	1.275	0.784
(Over)Protection	-0.010	0.048	-0.023	-0.203	0.840	1.690	0.592
<i>R</i> ²	0.082						
Adjustment <i>R</i> ²	0.060						
<i>F</i>	<i>F</i> (3,126)=3.766, <i>p</i> =0.013						
D-W 值	2.156						
Note: Dependent variable = Openness to Experiences							
* <i>p</i> <0.05 ** <i>p</i> <0.01							

4.2 Discussion

4.2.1 Significant Correlation between Parental Rearing Styles and Adolescent Personality Traits

The findings of this study suggest a significant correlation between different parenting styles and adolescent personality traits. For instance, a negative correlation has been observed between Agreeableness and the rejection dimension, suggesting that when parents exhibit rejection towards their children, the level of Agreeableness in adolescent personality traits may be diminished. This finding aligns with the findings of previous research, which suggests that the absence of parental acceptance can hinder children's social and emotional development (Yılmaz et al.). Concurrently, the positive correlation between conscientiousness and emotional warmth in parental rearing styles, as demonstrated in the data, suggests that adolescents' sense of responsibility and self-discipline can be cultivated by their parents' warm rearing styles. This finding lends further support to the notion that a nurturing family environment is conducive to the formation of positive adolescent personality traits (Grolnick & Ryan, 1989).

4.2.2 Gender Differences

In the course of examining the relationship between personality traits and parenting styles, this study employed gender differences to screen the samples and analyse the data. The results obtained are as follows: A stronger correlation between personality traits and family parenting styles is demonstrated by female adolescents in comparison to male adolescents. This phenomenon may be attributed to the heightened sensitivity exhibited by females with regard to the emotional atmosphere within their familial environment and the attitudes demonstrated by their parents. For instance, in the female sample, the rejection dimension exerts a more profound negative influence on agreeableness, conscientiousness, and emotional stability. The findings suggest that the extent to which parental intervention influences adolescents' personality traits may be contingent on gender. This observation is consistent with Jiang's research in 2024.

It is imperative that parents and educators direct greater attention to the distinct needs and sensitivities of male and female adolescents within the context of family environments. This assertion is in alignment with the findings of the study conducted by Brand, Serge, et al.

4.2.3 The Impact of Parent-Child Interaction Time

The analysis of the sample screening of the time spent by parents and teenagers together indicates that the time spent on companionship between parents and teenagers plays

an important role in the relationship between parenting styles and personality traits. A heightened awareness of the interconnectivity amongst a range of factors becomes evident when parents allocate more time to their children. For instance, when parents allocate more time to companionship, a significant positive correlation emerges between agreeableness and rejection dimensions. However, the nature of this correlation requires further exploration, as the correlation between the two dimensions is not significant in correlation studies. This suggests that the quality and quantity of parent-child interaction may regulate the impact of parenting styles on personality development.

5. Evaluation

5.1 limitation

With regard to the selection of samples, a total of 130 high school students were included in the study, constituting a relatively small sample size. Furthermore, the majority of the high school students were drawn from a mere two cities in China. The absence of diversity and universality within the sample considerably restricts the generalisability of the research findings, thereby compromising the capacity to accurately reflect the actual situation of all Chinese high school students. It is recommended that future studies augment the sample size by incorporating a greater number of high school students or adolescents from diverse geographical locations and backgrounds throughout the country. This approach will facilitate the acquisition of more compelling findings.

In terms of the research methods employed, this study utilises self-reporting questionnaires, a decision that was made in light of the challenges associated with the collection of physical questionnaires. Nevertheless, it should be noted that this questionnaire survey method is also susceptible to many factors. Due to social expectation bias, participants may be inclined to present a facade that aligns with social expectations, potentially leading to an inaccurate representation of their actual experiences or personality traits. This bias can result in conclusions that are not necessarily representative of the truth. In subsequent research, a multi-party questionnaire survey may be employed to corroborate the survey results in a variety of ways. For instance, interviews can be integrated to ascertain the genuine inner thoughts of participants through in-depth communication. The observation method was employed to record behaviour in a natural setting. Physiological measurement means, including hormone levels and brain waves, were utilised to verify the data from multiple angles, thereby enhancing its accuracy and reliability.

From the perspective of research relationship determination, the present study can only determine the correlation

between parenting styles and personality traits, but cannot determine the causal relationship between them. This may be due to the presence of an excessive number of variables within the study process, which hinders the identification of the causal relationship between the two through the utilisation of the prevailing study design. It is recommended that future studies consider the implementation of experimental methods for the establishment of experimental and control groups. Such methods should include the artificial manipulation and intervention of parenting styles, in addition to the tracking and observation of changes in personality traits. This will facilitate the determination of the causal relationship between the two.

5.2 Advantages

The research has a clearly defined objective and focuses on Chinese high school students, thereby addressing the dearth of sample data on Chinese adolescents in previous studies and the paucity of attention to this demographic in studies that primarily focus on groups from other regions. The present study has the potential to provide substantial support for the notion that family education and adolescent psychological problems in China are significant issues. Furthermore, it has the capacity to raise awareness among Chinese parents and educators of the considerable influence that parental rearing styles have on adolescents. The study may also serve to encourage these groups to pay greater attention to the education and influence of children. In the field of data analysis, a range of methodologies are employed to ensure the robustness of data statistics. These include the normality test, which verifies that data distribution conforms to the hypothesised model, correlation analysis, which explores the degree of correlation between variables, and linear regression analysis model, which uncovers the quantitative dependency between variables. Concomitantly, the study comprehensively addressed the impact of gender, parental time, and other factors on the outcomes, thereby enhancing the research conclusions with greater diversity and comprehensiveness. This approach offers a nuanced perspective, facilitating an in-depth exploration of the interplay between parenting styles and personality traits.

6. Conclusion

The present study employed Chinese high school students as a case study. The investigation examined the correlation between parenting styles and adolescent personality traits, offering significant insights into the developmental processes of Chinese adolescents. The findings of this research suggest a substantial correlation between parenting styles and adolescent personality traits. A parenting style characterised by emotional warmth has been demonstrated

to promote the development of positive personality traits in adolescents, including conscientiousness and openness. Conversely, a rejecting parenting style has been found to be negatively correlated with personality traits such as agreeableness and emotional stability in adolescents. Consequently, it can be posited that adolescents who are raised in a nurturing and supportive family environment are more likely to develop a positive and healthy personality. Conversely, an absence of acceptance and warmth in the family atmosphere has been demonstrated to have a detrimental effect on the personality development of adolescents. Furthermore, gender differences and the duration of parental engagement with their offspring have been demonstrated to influence this relationship. The personality traits of female adolescents have been found to be more strongly correlated with parenting styles, due to their heightened sensitivity to emotional perception and expression. A positive correlation is observed between the amount of time spent by parents with their children and the various factors under consideration. This study addresses a significant gap in the extant research on adolescent personality traits and parenting styles by providing a sample of Chinese adolescents, thus establishing a foundation and a source of inspiration for future research on the psychology of Chinese adolescents. In future research, other factors related to adolescent psychology could be explored in order to create a favourable growth environment for adolescents and promote the healthy development of their personality traits.

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