

The Relationship Between Upbringing Styles and Mental Health of Chinese College Freshmen: The Mediating Role of Body Appreciation

Wuman Hong

Chaozhou Teachers College, Hanshan Normal University, No.2 XiRong Road, Chaozhou City, Guangdong Province, China

koowmsu@gmail.com

Abstract. Nowadays, college freshmen face more psychological challenges and report more body image issues. However, as an important influence on mental health, upbringing style lacks research on external transmitters. At the same time, the body image issue is highlighted in freshmen and, as the core content of positive body image, body appreciation is called for more attention. This study analyzed the relationship between upbringing styles and mental health and body appreciation using quantitative research methods with a sample of 502 (101 males and 401 females) Chinese college freshman. The results found that rejection and overprotective upbringing styles were negatively associated with mental health, emotional warmth was positively associated with mental health, and that body appreciation played a mediating role in upbringing styles and mental health. The results informed mental health education in higher education and to complemented existing body appreciation research.

Keywords: upbringing styles, body appreciation, mental health, college freshmen

1. Introduction

Being a special group, college students are in a critical stage of their psychological growth [1]. However, mental health issues are becoming increasingly prominent in the college population, this may be due to the challenges they need to face from academic and individualized tasks, and the more complex socio-cultural environment in which they live [2]. Mental health issues are particularly prominent in the freshman, Hyun-Jung and Jeong [3] believed it was related to their need to adapt to the new environment. Bruffaerts et al. [4] reported in their study that 1/3 of freshmen had mental health issues in the past year. A longitudinal analysis reported higher levels of negative mental health among freshmen [5].

Since freshmen mental health is crucial, numerous researchers have looked into the variables that influence it. Among the numerous influences, college students' upbringing has a direct impact on their mental health [1]. Ge et al. [6] believed that upbringing is the foundation for a person's psychological adjustment and has the most direct and long-lasting effect on mental health. Upbringing style is a significant predictor of adolescent mental health [7]. Parental care and overprotection have a significant effect on adolescents' adjustment patterns [8].

Current research on the transmission factors between upbringing styles and mental health has focused on parenting strategies, namely, the internal connection between parent and child. Zhang et al. [9] suggested coping strategies for different parenting styles to help build a better parent-child relationship, which in turn promotes the development of children's mental health. Isaqova [10] believed that individual's mental health depended greatly on parents' roles, tasks, relationships, etc. in the family. These studies have mainly explored the family's intrinsic links, however, the exploration of external factors is important as well. Body image may play a conducive role as one of the more important and objective external image issues in adolescent development.

Body image is a multidimensional structure encompassing both positive and negative features [11], but previous researches have mainly focused on its negative aspects [12]. As a core component of positive body image [13], body appreciation is when someone has a positive opinion of their body, regardless of how they look, and they appreciate and embrace it by taking care of it and doing healthy things, and rejecting unrealistic body ideals portrayed by societal standards [14,15, 16]. It is not simply the opposite of body image dissatisfaction, but a separate system [17], and exists at all ages in both genders and is dynamic [16]. Despite the fact that the concept of body appreciation was developed nearly two decades ago to date [18], it has quickly gained the attention of scholars [12].

Of numerous external factors, body appreciation was chosen as a variable for the following two main reasons. Firstly, research on the positive aspects of body appreciation has been ignored. Although body appreciation has gained a lot of attention, Tylka [11] argued that research on body appreciation remains limited, this may be due to the fact that current research on body image has focused on pathological, negative factors [11]. The value of body appreciation research is not simply to eliminate negative body image, but to help individuals replace negative attitudes with positive ones in order to have a healthier life [19].

Secondly, scholars have advocated the need for more research on body appreciation in college student populations. While body appreciation exists at all ages for both genders [16], research has demonstrated an upward trend in body image issues among college students, and people who are very appreciative of their bodies are less prone to become more dissatisfied with their bodies [20]. Moreover, the prevalence of body image problems among college students is rising [21], and call for more attention to their body image. Therefore, body appreciation was discussed in this study as a mediating variable.

Currently, there is limited research related to body appreciation in the Chinese college population. For example, Liu et al. [22] explored gender differences in body appreciation among college students and its relationship to psychiatric symptoms. Yao et al. [23] found that body appreciation moderated the relationship between body shame and dietary control in female college students. Therefore, this study intends to explore the relationship between upbringing styles, body appreciation, and mental health of college freshman based on the Chinese context.

1.1. Upbringing Styles and Mental Health

Upbringing styles are the methods, attitudes, beliefs, and patterns of behavior that adopters use to raise their children, which have a profound effect on individual growth and personality traits [24]. Scholars have categorized upbringing styles differently, for instance, Baldwin [25] as the first scholar to discover the effects of parenting styles on individuals, argued that parenting behavior patterns include authoritative, permissive, and accepting; Arrindell et al. [26] believed that upbringing styles include rejection, emotional warmth, and overprotection as three dimensions; Francis and Badagabettu [27] categorized upbringing styles as authoritative, authoritarian, tolerant, and irresponsible. Regardless of the categorization, the type of upbringing points to the closeness and control that the provider (or parent) has over their children [24].

Scholars have supported the idea that an individual's psychological development encompasses family characteristics and that family is the origin of mental illness [28]. Khodabakhsh et al. [29] considered upbringing style as a predictor of students' mental health. Rezvan and D'Souza [30] reported a greater impact of parenting styles on mental health in late adolescence compared to early adolescence. Francis and Badagabettu [27] argued that mental health is negatively correlated with neglectful upbringing and positively correlated with tolerant upbringing. Moreover, Positive parental responses are beneficial to establish feelings of worthiness of love and care in children [31]. Individuals who receive positive parental support report higher levels of meaning in their lives [32]. Individual development is negatively impacted by the breakdown of the parent-child bond, which also causes stress and personality harm [33]. The violent atmosphere in the family plays a key role in the development of destructive behavior in individuals [34].

Therefore, it is hypothesized that positive upbringing styles are positively and negative parenting styles are negatively associated with the mental health of Chinese college freshmen (H1). The present study explored upbringing styles in the dimensions of rejection, emotional warmth, and overprotection based on the detection dimensions of the *Egna Minnen av Barndoms Uppfostran* (EMBU). Furthermore, emotional warmth was defined as positive upbringing style and rejection and overprotection were defined as negative upbringing styles.

1.2. Potential Mediating Effects of Body Appreciation

On the one hand, upbringing styles and body appreciation do have a correlation, for example, Chen et al. [12] believed that parental rejection could negatively affect adolescents' body appreciation; Izydorczyk et al. [35] suggested that parental care was one of the protective factors against body image issues; Neves et al. [36] found that young people who tend to lack parental attention have low levels of body appreciation. Although there is little research on upbringing styles and body appreciation, current findings suggest that there is a link between the two.

On the other hand, body appreciation has a "protective" character, which enables individuals to reject negative body-related information from various channels, thus avoiding the influence of harmful information on body image [37]. Thus, body appreciation has been associated with a variety of mental health outcomes, including and not limited to depression and anxiety, and higher degrees of body image satisfaction typically correlate with higher levels of body self-appreciation [38]. A large number of studies have proven that body appreciation is negatively correlated with various types of negative mental health [39], and have also demonstrated a negative correlation with depression and anxiety [17]. Moreover, studies have also reported a strong link between body appreciation and positive psychological qualities such as self-esteem, optimism, positive response, and life satisfaction [40]. Linardon et al. [18] reported that body appreciation is strongly related to mental health, such as self-esteem, healthy coping mechanisms.

Thus, the present study hypothesized that body appreciation mediates the relationship between negative upbringing styles and mental health, positive upbringing styles and mental health of Chinese college freshmen (H2).

1.3. Theoretical Framework

This study aimed to explore the relationships between upbringing styles, body appreciation and mental health among Chinese college freshmen. The theoretical framework constructed is shown in Figure 1.

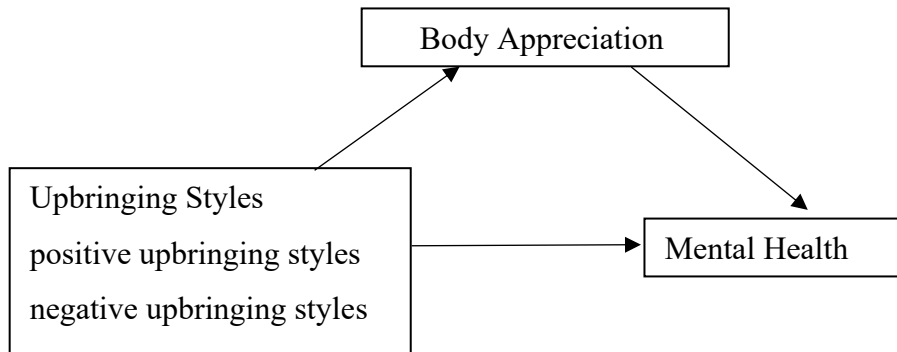


Figure 1. Theoretical Framework of This Study

2. Methods

2.1. Research Design

This study is a quantitative design based on scales data analysis. First obtained approval from the college's management and sending the scales to freshman students in an online format. Participant condition statement was added to the survey instructions to minimize survey bias, i.e., participants who were orphans, single parents, and non-parenting were excluded. All students volunteered to participate in this survey and all data were analyzed through SPSS 27.0.

2.2. Participants

The participants were from a college in Guangdong Province, China. The scales were distributed to the whole freshman year, with the consent of the administration of this college. There were 546 students in the whole freshman year and the response rate was 93.41%, which means that 510 data were recovered, of which 502 were valid, and the age group of the participants was 19-21 years old ($M=19.70$, $SD=.69$), with 101 males (20.12%) and 401 females (79.88%).

2.3. Measurements

Upbringing styles. Egna Minnen av Barndoms Uppfostran (EMBU) is an 81-item questionnaire developed by Perris et al. [41] to measure upbringing styles and later simplified by Arrindell et al. [42] into a 23-item version (s-EMBU). The simplified scale includes three dimensions of rejection, emotional warmth, and overprotection using a four-point scale from 1 (never) to 4 (always). The present study used the Chinese version of the short-Egna Minnen av Barndoms Uppfostran revised by Jiang et al. [43], the Chinese version (s-EMBU-C) contains 21 items. The questionnaire tests the upbringing styles of both father and mother separately, so subjects were required to complete 42 items, the Cronbach's alpha for parental dimensions in this study were .843 and .791.

Body appreciation. The 10-item Body Appreciation Scale (BAS-2) is an instrument developed by Tylka and Wood-Barcalow [14] to measure positive body image and has widespread applicability in many countries or regions. The scale is scored using a 5-point Likert scale from 1 (never) to 5 (always) and the mean score was calculated as the result. Higher scores indicate higher levels of body appreciation. The Chinese version of the Body Appreciation Scale (BAS-2) was converted by Ma et al. [44], and in this study, the Cronbach's alpha was .920.

Mental health. Warwick-Edinburgh Mental Well-being Scale (WEMWBS) is the instrument developed by Tennant et al. [45] to measure level of mental health, it consists of two versions, the original (14 items) and the shortened version (7 items).

A 5-point Likert scale, ranging from 1 (never) to 5 (always), is used to rate both versions; higher overall scores suggest better mental health. The Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS) was transformed by Ng et al. [46] into a Chinese version and reported a Cronbach's alpha of .89. Fung [47] verified the validity of both versions of the scale in a Chinese

college population and reported that SWEMWBS had higher internal consistency, convergent validity, and factorial validity. Thus, the present study used the Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS) and the Cronbach's alpha was .933.

3. Results

3.1. Descriptive Statistics

A preliminary analysis of the validated scales was performed to calculate the results of the three scales, as detailed in Table 1. Father's upbringing styles from 1.10 to 3.88, concentrating on $1.99 \pm .41$, mother's upbringing styles from 1.13 to 3.88, concentrating on $2.10 \pm .36$, participants' levels of body appreciation ranged from 1.80 to 5.00, concentrating on $4.12 \pm .71$, mental health ranged from 1.14 to 5.00, concentrating on $3.67 \pm .84$,

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
s-EMBU-C (father)	502	1.10	3.88	1.99	.41
s-EMBU-C (mother)	502	1.13	3.88	2.10	.36
BAS-2	502	1.80	5.00	4.12	.71
SWEMWBS	502	1.14	5.00	3.67	.84
Valid N (listwise)	502				

Note. BAS-2 refers to the Body Appreciation Scale.

SWEMWBS refers to the Short Warwick-Edinburgh Mental Well-being Scale.

s-EMBU-C refers to the short-Egna Minnen av Barndoms Uppfostran (Chinese version).

3.2. Correlation Analysis

The test found that all data did not conform to a normal distribution, so Spearman's correlation coefficient was chosen for analysis. Table 2 shows the correlation between the variables. Negative upbringing was negatively associated with mental health and positive upbringing was positively associated with mental health. These results prove that hypothesis 1 (H1) is valid.

Table 2. Correlation Analysis between Variables

	1	2	3	4	5	6	7	8
1 rejection (father)								
2 emotional warmth (father)	-.219**							
3 overprotection (father)	.653**	-.073						
4 rejection (mother)	.725**	-.231**	.514**					
5 emotional warmth (mother)	-.300**	.573**	-.215**	-.477**				
6 overprotection (mother)	.472**	-.158**	.587**	.611**	-.234**			
7 BAS-2	-.185**	.407**	-.149**	-.275**	.442**	-.149**		.778**
8 SWEMWBS	-.142**	.504**	-.116**	-.228**	.421**	-.165**		

Note. ** Correlation is significant at the 0.01 level (2-tailed).

BAS-2 refers to the Body Appreciation Scale.

SWEMWBS refers to the Short Warwick-Edinburgh Mental Well-being Scale.

3.3. Analysis of Intermediation Effects

Bootstrap pulling (effect size 95%) was used to analyze the mediating role of body appreciation between parenting styles (both negative and positive) and mental health. The results, as shown in Table 3 and Table 4, indicate that body appreciation mediated in all relationships except between rejection (father) and mental health, in which it did not mediate.

Table 3. Analysis of the Mediating Role of Body Appreciation between Negative Parenting Styles and Mental Health

Model pathways	Effect	BootSE	BootLLCI	BootULCI
rejection (father)→body appreciation→mental health	-.099	.056	-.213	.001
overprotection (father) →body appreciation→mental health	-.123	.064	-.255	-.003
rejection (mother) →body appreciation→mental health	-.205	.067	-.344	-.078
overprotection (mother) →body appreciation→mental health	-.158	.068	-.294	-.028

Table 4. Analysis of the Mediating Role of Body Appreciation between Positive Parenting Styles and Mental Health

Model pathways	Effect	BootSE	BootLLCI	BootULCI
emotional warmth (father) →body appreciation→mental health	.297	.032	.234	.360
emotional warmth (mother) →body appreciation→mental health	.321	.035	.254	.391

4. Discussion

The purpose of this study was to investigate the connections between Chinese college freshmen's mental health, body appraisal, and upbringing styles. Three aspects of upbringing methods were examined: overprotection, emotional warmth, and parental rejection. Additionally, they categorized rejection and overprotection as negative upbringing styles and emotional warmth as positive upbringing styles. Based on this, the connection between parenting practices and mental health was investigated, along with the part that body appreciation plays in the two aforementioned.

Firstly, a preliminary analysis of the upbringing styles, participants' level of body appreciation and mental health was conducted. Since no specific data on body appreciation, mental health, and parenting styles of college freshmen from different countries have been found, and [48] argued that there may be differences in the understanding of body appreciation across cultures, the results of these preliminary analyses were considered to provide insights into Chinese college freshmen as well as to provide support for research in this area with data based on the Chinese cultural background.

In the second, correlations between variables were analyzed. The results showed a correlation between upbringing style and mental health, with parental rejection and overprotection negatively correlated with mental health and emotional warmth positively correlated with mental health. Saleem et al. [49] believed that parental rejection can have an impact on the mental health of college students. Liang et al. [50] found that non-solid families are one of the most important factors affecting the mental health of college freshmen. The results of the analyses in the present study were consistent with the findings of existing studies, namely, positive upbringing style is conducive to mental health, while negative upbringing style is the opposite. It illustrating the generalizability of the correlation between upbringing styles and mental health across cultural backgrounds, and proving that Hypothesis 1 (H1) holds true.

The third was an analysis of the role of body appreciation in the relationship between upbringing styles and mental health. The results demonstrated that except for father rejection, body appreciation mediated the relationship between all other dimensions and mental health. Therefore, the hypothesis (H2) partially valid. Regarding body appreciation research, it has been proven to play a mediating role, such as in the relationships between BMI and eating disorders [51], stress and appearance anxiety [52], self-worth and depression [53]. Unfortunately, there was no transmission between father rejection and mental health. This may be due to the fact that parental rejection has an inconsistent effect on children [54], mother rejection had a more significant effect on individuals' psychological maladjustment [55]. Additionally, the effects of father rejection on the individual may act in other ways, such as substance abuse [56]. Focusing on the role of body appreciation across different variables is complementary to existing research and contributes to a deeper understanding of body appreciation.

This study was based on a college freshman population and explored the relationship between upbringing styles, mental health, and body appreciation, while refining upbringing styles and discussing them in terms of parental rejection, emotional warmth, and overprotection. The results showed that rejection and overprotection can have a negative impact. In contrast to other studies that have focused on college student populations, this study focuses on the college freshmen is not only because they face more mental challenges, but also because studies have reported that body image issues are more prominent in the freshman group [57, 58, 59], thus, can be considered that this study expands the research on body appreciation in college freshman populations and provides new perspectives on existing body appreciation research.

It can also provide a reference for mental health education in colleges. This study demonstrated the path of influence between upbringing styles, mental health, and body appreciation, and higher education institutions can start from this perspective to understand the upbringing styles of freshmen and develop targeted educational strategies, thus helping them to better adapt to the

environment as well as improve their mental health. In addition, Tripartite Influence Model identifies parents as one of the three main factors that influence body image [60], therefore, the categorical exploration of parenting styles can be considered a specific presentation of how parents influence their children's body image.

5. Limitations

Although this study provides support for research on upbringing styles, body appreciation, and mental health in the college freshman, it also has limitations. First is the possibility of sample bias. The sample for this study was from one college, which may limit the applicability of the findings to all freshman years in China. Secondly, only one data collection was conducted, and if a follow-up survey were to be conducted, a better understanding of the development patterns of this group could be obtained. The third is the limitation of the research methodology, only quantitative research methods were used in this study, however, according to Creswell and Creswell [61] qualitative research can assist in interpreting the results of quantitative research.

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