

# Examining the Moderating Effects of Gender and Age on Family Caring Attitude on Psychological Well-Being among College Students in Shanxi, China

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## Abstract

Mental health challenges among college students have reached alarming levels globally, with Chinese students facing unique cultural and educational pressures. Family support plays a crucial role in psychological well-being, yet limited research has examined how demographic factors moderate this relationship in the Chinese context. This study investigated the moderating effects of gender and age on the relationship between family caring attitudes and psychological well-being among college students in Shanxi, China. A cross-sectional quantitative study was conducted with 697 college students (51.9% female, 48.1% male; ages 18-22) from 10 institutions in Shanxi province. Standardized questionnaires measured family caring attitudes (emotional support, communication, supportive environment, conflict resolution) and psychological well-being (self-acceptance, positive relationships, environmental mastery, personal growth). Statistical analyses included Mann-Whitney U tests, chi-square tests, and ordinal regression. Participants reported moderate to high psychological well-being levels, with emotional support being the highest-rated family caring dimension ( $M=3.77$ ). A significant relationship was found between family caring attitudes and psychological well-being ( $\chi^2=4102.514$ ,  $p<0.001$ ). Contrary to expectations, neither gender nor age significantly moderated this relationship, and no significant demographic differences were observed in either variable. Family caring attitudes significantly influence psychological well-being among Chinese college students, regardless of gender or age. These findings suggest that family support interventions may benefit all students universally, transcending demographic differences in the Chinese cultural context.

**Keywords:** Examining the Moderating Effects, Gender and Age, Caring Attitude, Psychological, College Students.

**Introduction**

This study investigates the moderating effect of gender and age on the relationship between family caring attitude and psychological well-being among college students in Shanxi, China. The mental health challenges faced by college students represent a significant concern in higher education institutions globally, with particular nuances in the Chinese educational and cultural context. This chapter presents the research backdrop, problem statement, objectives, research questions, significance of the study, its scope and limitations, and conceptual framework.

*Background of the Study*

College students' mental health has become a critical concern for higher education institutions worldwide, with particular challenges emerging in the Chinese context. Understanding what constitutes optimal psychological well-being is essential for addressing these challenges effectively (Guo et al., 2024). Studies have demonstrated that many psychological issues have distinct cultural components that must be considered when examining mental health in specific populations.

Chinese college students face unique challenges regarding their cultural background and educational experiences. Traditionally, Chinese students prioritise academic achievement above all else, with parents managing most non-academic aspects of their lives before college (Wu & Xin, 2019). This cultural pattern often leaves students ill-equipped to handle challenges independently when they enter college, resulting in feelings of helplessness when faced with the multifaceted demands of student life.

Recent research has revealed concerning trends in the mental health of Chinese college students. Ma et al. (2020) reported that approximately 35%, 21%, and 11% of students from 108 Chinese universities experienced acute stress, depression, and anxiety, respectively. Comparing university students to general workers, Tan et al. (2021) found evidence suggesting higher levels of anxiety and depression symptoms among students. These findings align with global trends showing deteriorating mental health among student populations, particularly following the COVID-19 pandemic (Liu et al., 2019).

Family caring attitude represents a crucial factor in understanding the psychological well-being of Chinese college students. In Chinese culture, family support extends beyond meeting material needs to include significant emotional and psychological support (Chen et al., 2020). Chinese values emphasize emotional support as a fundamental component of family caring, including expressions of empathy, love, and care toward students. Higher levels of emotional support have been associated with improved psychological well-being, including reduced stress among students (Chan & Chui, 2020).

Family communication within Chinese society plays a vital role in creating an atmosphere of care. Wang and Yang (2022) found that effective communication nurtures a supportive environment where students can share their aspirations, concerns, and challenges. Open communication with family members has been linked to improved emotional bonds and psychological outcomes. Li and Xu (2020) suggested that strong family ties develop a sense of stability for students, enhancing their self-esteem and serving as a buffer against the pressures associated with college life.

However, the relationship between family caring attitude and psychological well-being may not be uniform across all demographic groups. Gender differences in mental health outcomes have been consistently observed, with internalising disorders such as depression and psychological distress more common among women, while externalising disorders like substance abuse are more prevalent among men (Huang et al., 2021; Yang et al., 2021). Age-related differences may also influence how students experience and benefit from family caring attitudes, as developmental stages impact psychological needs and family relationships.

Despite evidence suggesting the importance of family support for psychological well-being, limited research has examined how demographic factors such as gender and age might moderate this relationship in the Chinese cultural context. Research by Li and Xu (2020) indicates that women generally experience different health outcomes than men globally, while studies by Huang et al. (2021) consistently observe gender disparities in mental health conditions. Understanding these potential moderation effects is crucial for developing targeted interventions that address the specific needs of different student groups.

The alarming rates of mental health issues among Chinese college students (Ma et al., 2020; Cao et al., 2020) underscore the urgent need to identify protective factors that can mitigate psychological distress. While studies have established the general importance of family caring attitudes for psychological well-being (Chen et al., 2020; Chan & Chui, 2020), few have investigated how the strength or nature of this relationship might vary across gender and age groups. This research gap limits our ability to develop targeted interventions that address the specific needs of diverse student populations.

This study addresses this critical gap by examining how gender and age moderate the relationship between family caring attitude and psychological well-being among college students in Shanxi, China. By understanding these moderating effects, we can develop more nuanced and effective approaches to supporting students' mental health that account for important demographic differences.

### **Problem Statement**

The prevalence of mental health problems among college students globally has reached alarming levels, with studies reporting high rates of depression, anxiety, stress, and other psychological conditions (Asif et al., 2020; Auerbach et al., 2018; Lipson et al., 2019). In China specifically, recent surveys indicate that college students are experiencing unprecedented levels of psychological distress, with studies showing that up to 35% of students report symptoms of severe psychological distress (Ma et al., 2020). This situation demands urgent attention and targeted research to understand the factors that might mitigate these challenges.

Family support plays a crucial role in psychological well-being. Families significantly influence children's physical and psychological development throughout their educational journey. Even as peer influence increases during adolescence and early adulthood, family support continues to impact college students' psychological development significantly. Hamilton and Gross (2021) demonstrated that positive family communication reduces both internal and external behavioral problems in young adults. Research consistently indicates that family

support provides a stress-buffering effect (Beanlands et al., 2019) and helps individuals overcome life challenges and various pressures (Kohls et al., 2021).

Studies have consistently shown that regardless of demographic factors such as age, gender, socioeconomic status, or support system strength, an individual's psychological health is significantly affected by their family functioning (Lukács, 2021). However, despite the fundamental importance of families to society and psychological health improvement, research on the relationship between family functioning and personal psychological health outcomes remains limited, particularly in the Chinese cultural context.

Furthermore, while existing research has established correlations between family caring attitudes and psychological well-being, limited attention has been given to how demographic factors might moderate these relationships. Gender differences in mental health outcomes are well-documented (Huang et al., 2021; Yang et al., 2021), but few studies have examined whether gender also influences how family caring attitudes affect psychological well-being. Similarly, age-related developmental differences may impact how students experience and benefit from family support, yet this potential moderation effect remains underexplored.

The Chinese educational context creates unique psychological challenges for students. Education represents one of the most significant factors in social stratification in China, with university degrees—particularly from prestigious institutions—serving as critical determinants of future success regardless of one's background (Dobosz & Hetmańczyk, 2023). Academic achievement substantially impacts both students' and their families' futures, creating significant social and psychological pressure (Cao et al., 2020).

Despite recognition of the importance of psychological well-being among college students in China, there remains a critical research gap regarding how gender and age might moderate the relationship between family caring attitudes and psychological well-being, particularly in Shanxi province. This research gap impedes the development of effective interventions tailored to the specific needs of diverse student populations.

The current study addresses this critical gap by exploring how gender and age moderate the relationship between family caring attitudes and psychological well-being among college students in Shanxi, China. Understanding these moderating effects is essential for developing targeted interventions and support systems that can effectively address the psychological needs of college students across different demographic groups, potentially reducing the alarming rates of psychological distress currently observed.

### *Research Objectives*

The main objective of this study is to examine the moderating effects of gender and age on the relationship between family caring attitudes and psychological well-being among college students in Shanxi, China. The specific objectives include:

- RO1: To identify differences in perceptions of family caring attitudes (emotional support, communication, supportive environment, conflict resolution) and psychological well-being by gender and age among college students in Shanxi, China.
- RO2: To examine the relationship between perceptions of family caring attitudes (emotional support, communication, supportive environment, conflict resolution) and psychological well-being among college students in Shanxi, China.
- RO3: To investigate the moderating effect of gender on the relationship between family caring attitudes (emotional support, communication, supportive environment, conflict resolution) and psychological well-being among college students in Shanxi, China.
- RO4: To investigate the moderating effect of age on the relationship between family caring attitudes (emotional support, communication, supportive environment, conflict resolution) and psychological well-being among college students in Shanxi, China.

### *Research Questions*

Based on the research objectives, the following research questions guide this study:

- RQ1: Are there significant differences in perceptions of family caring attitudes (emotional support, communication, supportive environment, conflict resolution) and psychological well-being by gender and age among college students in Shanxi, China?
- RQ2: Is there a significant relationship between perceptions of family caring attitudes (emotional support, communication, supportive environment, conflict resolution) and psychological well-being among college students in Shanxi, China?
- RQ3: Does gender moderate the relationship between family caring attitudes (emotional support, communication, supportive environment, conflict resolution) and psychological well-being among college students in Shanxi, China?
- RQ4: Does age moderate the relationship between family caring attitudes (emotional support, communication, supportive environment, conflict resolution) and psychological well-being among college students in Shanxi, China?

### **Significance of the Study**

This research offers significant value to multiple stakeholders in the educational ecosystem:

#### *College Students*

This study provides college students with valuable insights into how family support influences their psychological well-being, particularly how these effects might differ based on gender and age. Understanding these dynamics can help students develop more effective coping strategies by recognizing the specific aspects of family support that are most beneficial for their demographic group. This knowledge becomes especially valuable when students face academic pressures, personal difficulties, or other challenges that might impact their psychological well-being.

Furthermore, this research helps students understand the importance of family support systems in their academic and personal lives. By examining how gender and age moderate the relationship between family caring attitudes and psychological well-being, students can better comprehend how these support systems influence their mental health. This understanding can empower students to utilise available family support resources more effectively and communicate their specific needs to family members.

*Educational Institutions and Administrators*

For college administrators, this study provides crucial information about how psychological well-being varies across different gender and age groups, and how family support influences these outcomes differently for various demographic segments. These insights are invaluable for developing targeted support services and interventions that address the specific needs of diverse student populations.

The research findings can inform the development and implementation of institutional policies that promote better psychological well-being among all students. By understanding how age and gender moderate the relationship between family support and psychological well-being, administrators can create more nuanced and compelling support systems. This knowledge enables them to allocate resources more efficiently and design programs that better serve their diverse student population.

Moreover, this research can help college administrators identify potential risk factors and vulnerable student populations requiring additional support or targeted interventions. Understanding these patterns allows institutions to take proactive measures in supporting students' mental health rather than merely responding to crises.

*Families*

Through this research, families can gain a deeper understanding of how their caring attitudes directly influence their children's psychological well-being, and how these influences might vary based on their child's gender and age. This understanding encompasses both the positive aspects of family support and potential areas where family approaches might need adjustment to better support students' well-being based on demographic factors.

The study's examination of specific dimensions of family caring attitudes—emotional support, communication, supportive environment, and conflict resolution—provides families with practical insights into which aspects of support are most beneficial for different demographic groups. This knowledge can help families tailor their support strategies to better meet the specific needs of their college-age children.

The findings from this research can serve as a practical guide for families in understanding their role in supporting college students' mental health across different gender and age groups. By highlighting the specific ways in which family caring attitudes influence psychological well-being for various demographic segments, the study can help families develop more effective support strategies.

**Research Scope**

This study focuses on investigating the moderating effects of gender and age on the relationship between family caring attitudes and psychological well-being among college students in Shanxi, China. The primary independent variable is family caring attitude, comprising four dimensions: emotional support, communication, supportive environment, and conflict resolution. The dependent variable is psychological well-being, encompassing self-acceptance, positive relationships with others, environmental mastery, and personal growth. Gender and age serve as moderating variables in this study.



The study targets undergraduate and graduate students enrolled in higher education institutions in Shanxi Province, China. It aims to understand how gender and age influence the relationship between family support and mental health outcomes within this specific cultural and geographic context.

### **Literature Review**

This study integrates multiple complementary theories to create a comprehensive foundation for understanding the relationships between family caring attitudes, psychological well-being, and the moderating effects of gender and age.

#### *Subjective Well-being (SWB) Theory*

As conceptualised by Diener and colleagues, subjective Well-being theory forms a fundamental theoretical foundation for this research. According to this theory, an individual's subjective evaluation of their life satisfaction, positive affect, and negative affect is an essential component of psychological well-being (Lijadi, 2018). This theory directly relates to the dependent variable of this study—psychological well-being among college students in Shanxi, China.

SWB theory posits that psychological well-being encompasses positive evaluations of one's life and emotional experiences, not merely the absence of mental health issues. Das et al. (2020) found that SWB is linked to significant outcomes in higher education, including academic achievement, attendance, and engagement. SWB theory helps explain how external factors, such as family caring attitudes, influence students' subjective evaluations of their lives and emotional experiences.

#### *Family Systems Theory*

Family Systems Theory provides a crucial theoretical foundation for understanding how family caring attitudes influence psychological well-being. This theory views the family as an interconnected emotional unit where changes in family dynamics affect the entire system (McHale & Sirotkin, 2019). In the context of this study, Family Systems Theory explains how family caring attitudes—expressed through emotional support, communication, supportive environment, and conflict resolution—influence students' psychological well-being through systemic processes.

The theory is especially relevant given Chinese culture's collectivist orientation, which emphasizes family cohesion, filial piety, and interdependence (Kagiticbasi, 2017). In Chinese families, psychological well-being is often conceptualised as harmonious family relationships and fulfilment of familial responsibilities (Shah et al., 2020). Cummings et al. (2015) found that family characteristics such as conflict resolution approaches and family expressiveness become particularly salient during transitions, providing protection and preparation for individuals.

#### *Social Cognitive Theory*

Social Cognitive Theory (SCT) emphasises the reciprocal interactions between personal factors, behavioural patterns, and environmental influences in human development (Bandura, 2002). In this study, SCT helps explain how students internalize and respond to caring attitudes demonstrated by family members.

According to SCT, individuals learn not only through direct experience but also by observing the behaviours, attitudes, and emotional reactions of others, particularly influential models such as family members (Schunk, 2013). When family members demonstrate caring attitudes through emotional support, effective communication, creating a supportive environment, and constructive conflict resolution, students observe and potentially internalise these behaviours, influencing their psychological well-being.

#### *Integration of Theoretical Perspectives*

These theories collectively provide a comprehensive framework for understanding the complex relationships examined in this study. SWB Theory offers insights into the nature of psychological well-being, while Family Systems Theory explains how family dynamics influence individual well-being. Social Cognitive Theory illuminates the processes through which students internalize family attitudes and behaviors.

When examining the moderating effects of gender and age, these theories help explain why the relationship between family caring attitudes and psychological well-being might vary across demographic groups. For example, Family Systems Theory suggests that family roles and expectations may differ by gender in Chinese culture, potentially affecting how family caring influences psychological well-being for male versus female students. Similarly, developmental differences associated with age may influence how family support is experienced and internalized, as Social Cognitive Theory explains.

#### *Operational Definition of Terms*

A family caring attitude refers to how family members demonstrate care, concern, and support for college students. Based on the literature, this study operationalises family caring attitude through four key dimensions:

**Emotional Support:** The extent to which family members provide empathy, love, trust, and care toward the student, which has been associated with reduced stress and improved psychological outcomes (Chan & Chui, 2020).

**Communication:** The quality and effectiveness of verbal and non-verbal exchanges between family members and the student, including openness, clarity, and frequency. Wang and Yang (2022) found that effective family communication nurtures a supportive environment where students can share their aspirations, concerns, and challenges.

**Supportive Environment:** The creation of a stable, encouraging family atmosphere that promotes the student's autonomy and growth. Li and Xu (2020) suggested that strong family ties develop a sense of stability for students, enhancing their self-esteem and serving as a buffer against college-related pressures.

**Conflict Resolution:** The constructive management of disagreements and tensions within the family, emphasising mutual understanding and compromise rather than avoidance or aggression (Cummings et al., 2015).



Psychological well-being is a multidimensional construct encompassing positive psychological functioning and optimal human experience. Drawing on Ryff's conceptualisation, this study operationalises psychological well-being through four dimensions:

**Self-Acceptance:** A positive attitude toward oneself, including acceptance of both positive and negative aspects of one's character (Candra et al., 2023). This dimension is particularly relevant to college students in a critical period of identity formation.

**Positive Relations with Others:** The capacity to form warm, trusting interpersonal relationships and experience empathy and affection for others (López et al., 2018). Among college students, positive relationships have been linked to academic persistence, adjustment to college life, and reduced psychological distress (Balvaneda, 2021).

**Environmental Mastery:** The ability to manage one's environment effectively and create contexts suitable for personal needs and values (Ryff et al., 2020). This dimension is relevant to college students as they navigate the transition to more independent living and decision-making.

**Personal Growth:** The continuous process of developing one's potential and expanding as a person (Ryff, 2013). This dimension aligns with the developmental tasks of college students who are actively exploring their identities and future directions.

In this study, gender refers to the self-identified gender of participants, typically categorised as male or female. Gender differences in mental health outcomes have been consistently observed, with internalising disorders more common among women and externalising disorders more prevalent among men (Huang et al., 2021; Yang et al., 2021). Age refers to the chronological age of participants, typically grouped into categories relevant to the college student population (e.g., 18-20, 21-23, 24 and above). Age-related developmental differences may impact how students experience and benefit from family support.

### *Hypothesis Development*

Based on the reviewed literature and theoretical framework, the following hypotheses have been developed for this study:

**Gender and Age Differences in Family Caring Attitudes and Psychological Well-being**  
Research has consistently shown gender differences in perceptions of family support and in psychological health outcomes. Studies indicate that women generally report higher levels of family support but also experience more internalising mental health issues such as depression and anxiety (Huang et al., 2021). Similarly, age-related developmental differences may influence both perceptions of family support and psychological well-being, as students' independence from family increases with age (Li & Xu, 2020).

These findings lead to the following hypotheses:

H01: There is no significant difference in perceptions of family caring attitudes between male and female college students in Shanxi, China.

H02: There is no significant difference in psychological well-being between male and female college students in Shanxi, China.

H03: There is no significant difference in perceptions of family caring attitudes among different age groups of college students in Shanxi, China.

H04: There is no significant difference in psychological well-being among college-age college students in Shanxi, China.

Previous research has established strong associations between family support and psychological well-being across various populations. Chen et al. (2020) found that in Chinese culture, family support extends beyond material needs to include significant emotional and psychological support, which is critical for students' well-being. Studies have linked specific aspects of family caring, such as emotional support and effective communication, to improved psychological outcomes among students (Chan & Chui, 2020; Wang & Yang, 2022). Based on these findings, the following hypothesis is proposed:

H05: There is no significant relationship between perceptions of family caring attitudes and psychological well-being among college students in Shanxi, China.

While research has established the importance of family support for psychological well-being, limited attention has been given to how demographic factors might moderate these relationships. Gender differences have been observed in both the provision and perception of family support and in psychological health outcomes (Huang et al., 2021). Additionally, the significance of family support may change with age as students develop more independence and expanded social networks (Li & Xu, 2020).

These considerations lead to the following hypotheses:

H06: Gender does not significantly moderate the relationship between family caring attitudes and psychological well-being among college students in Shanxi, China.

H07: Age does not significantly moderate the relationship between family caring attitudes and psychological well-being among college students in Shanxi, China.

### **Conceptual Framework**

The conceptual framework for this study illustrates the hypothesized relationships between family caring attitudes and psychological well-being, with gender and age serving as moderating variables. Family caring attitudes, consisting of emotional support, communication, supportive environment, and conflict resolution, are expected to influence psychological well-being, encompassing self-acceptance, positive relationships, environmental mastery, and personal growth.

The framework posits that gender and age may moderate the strength or nature of the relationship between family caring attitudes and psychological well-being. For instance, the impact of family emotional support on psychological well-being might be more substantial for female students than male students, or the effect of family communication on psychological well-being might vary across different age groups.

This conceptual framework is (Figure 1) grounded in previous research indicating the importance of family support for psychological well-being (Chen et al., 2020; Chan & Chui, 2020), as well as studies suggesting gender and age differences in psychological health

outcomes (Huang et al., 2021; Yang et al., 2021). The framework extends existing knowledge by explicitly examining the potential moderating effects of gender and age on the relationship between family caring attitudes and psychological well-being in the context of Chinese college students.

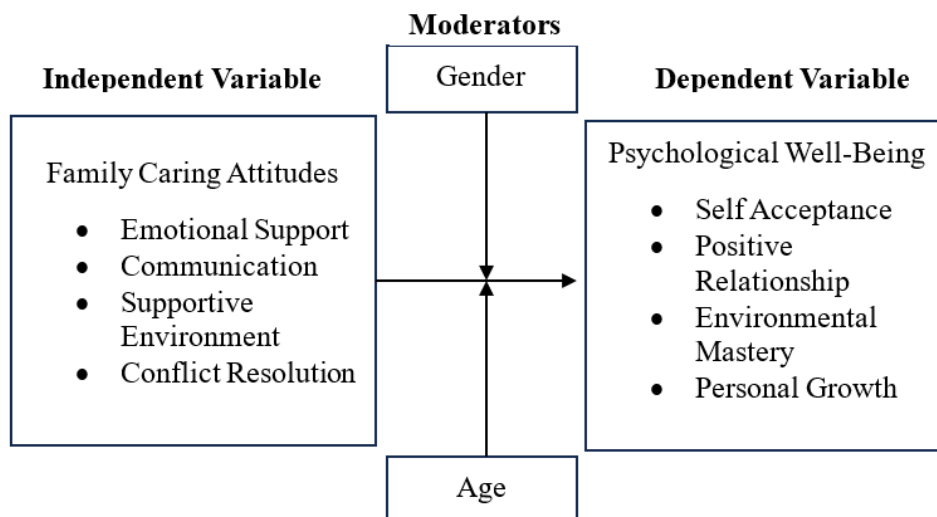


Figure 1: Conceptual Framework

## Research Methodology

### Research Design

A quantitative methodology was selected to objectively measure participants' attitudes, perceptions, and psychological states through standardised instruments (Creswell, 2014). This approach allowed for examining differences and relationships between clearly defined variables using statistical analysis (Dannels, 2018). The correlational, non-experimental design was appropriate as the study aimed to examine relationships between variables as they naturally occur without manipulating any independent variables.

The cross-sectional design captured data at a single point in time, providing a snapshot of the relationships between variables. While this approach does not allow for causal inferences, it effectively identified existing relationships and differences during the data collection period (Asenahabi, 2019).

The study was guided by several key theoretical frameworks:

1. Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1979) served as the primary theoretical framework, positing that human development occurs within complex systems of relationships affected by multiple environmental levels, including microsystems (family, educational settings), mesosystems (connections between microsystems), exosystems (external environments), macrosystems (cultural context), and chronosystems (time dimension).
2. Ryff's Model of Psychological Well-Being (Ryff, 1989) provided the foundation for conceptualising and measuring psychological well-being through six dimensions: self-acceptance, positive relations with others, environmental mastery, personal growth, purpose in life, and autonomy. This study focused on four dimensions most relevant to

Chinese college students: self-acceptance, positive relations with others, environmental mastery, and personal growth.

3. Attachment Theory(Bowlby, 1969) informed the family caring attitude component, suggesting that early relationships with caregivers form the basis for emotional security and influence subsequent relationships.
4. Noddings' Ethics of Care Theory(1984) provided the theoretical foundation for examining teacher caring behaviours, positioning care as fundamental to educational relationships.

#### *Population and Sampling*

The target population comprised college students in Shanxi province, China. This population was selected because college students represent a critical developmental period (emerging adulthood) during which family and educational relationships may particularly influence psychological well-being.

A multi-stage probability sampling approach was employed to select a representative sample:

1. In the first stage, the sampling frame comprised all 82 general and vocational colleges in Shanxi province.
2. In the second stage, simple random sampling selected 10 colleges with a population of 8,049 students.
3. In the third stage, stratified random sampling selected students across different age groups: Strata 1 (ages 18-19, n=351) and Strata 2 (ages 20-22, n=346).

The final sample size of 697 students was determined using Krejcie and Morgan's (1970) sampling table, providing a 95% confidence level with a 5% margin of error.

#### *Research Instruments*

Three primary instruments were used to measure the key variables:

1. Psychological Well-Being Questionnaire: Adapted from Ryff's (1989) scale, this questionnaire focuses on four dimensions (self-acceptance, positive relations with others, environmental mastery, and personal growth). Ten items per dimension are rated on a five-point Likert scale.
2. Family Caring Attitude Questionnaire: Developed based on established measures in family psychology literature (Olson et al., 1989; Barnes & Olson, 1985; Moos & Moos, 2009; Hertzman & Emery, 2013), measuring four dimensions (emotional support, communication, supportive environment, and conflict resolution) with 10 items each.

All instruments underwent rigorous translation following Brislin's (1970) back-translation methodology to ensure conceptual equivalence between English and Chinese versions.

#### *Pilot Testing*

A pilot study with 30 college students tested the research instruments' reliability and validity before the main data collection. This preliminary investigation assessed the clarity of translated items, evaluated logistics of data collection procedures, and examined the instruments' psychometric properties.

The pilot test results demonstrated satisfactory reliability, with Cronbach's Alpha values ranging from 0.627 to 0.876 across all scales, exceeding the minimum acceptable threshold

of 0.60 (Creswell et al., 2011). Based on participant feedback, minor modifications were made to improve item clarity and refine administration procedures.

#### *Reliability and Validity*

Reliability was assessed through internal consistency measures, primarily using Cronbach's alpha coefficient. All scales demonstrated good reliability, with alpha values ranging from 0.717 to 0.854.

Validity was examined through multiple dimensions, including face validity, which was established during the pilot study phase, and content validity was ensured through expert panel review in educational psychology and student well-being and construct validity was assessed using confirmatory factor analysis (CFA).

#### *Data Collection and Analysis*

Data collection involved administering questionnaires to selected colleges in printed form and face-to-face to ensure a higher response rate and efficiency (Gallagher, 2009).

Data analysis was employed for the descriptive and inferential statistical techniques, including the independent samples t-tests and Mann-Whitney U tests for gender and age differences, correlation analysis (Pearson's or Spearman's) to examine relationships between variables and multiple regression analysis to examine predictive relationships between variables.

### **Findings**

#### *Response Rate*

The study targeted 697 respondents, achieving a 100% response rate. This high response rate ensures adequate representation of the target population and strengthens the generalizability of the findings (Gallagher, 2009).

#### *Demographic Characteristics*

As shown in Table 1 below, the demographic analysis revealed a relatively balanced gender distribution, with 51.9% female and 48.1% male participants. Regarding age distribution, 54.4% of respondents were aged 20-22, while 45.6% were 18-19. This balanced distribution across gender and age groups strengthens the study's ability to examine the potential moderating effects of these demographic variables.

Table 1

#### *Response Rate*

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
Sample size	697	100%
Positive responses	697	100%
Non-responses	0	0%

Table 2

*Demographic Analysis for Students*

Demographic	Frequency	Percentage (%)
<b>Gender</b>		
Male	335	48.1
Female	362	51.9
<b>Age</b>		
18-19	318	45.6
20-22	379	54.4

**Descriptive Analysis***Psychological Well-being*

The study examined psychological well-being through four dimensions. The findings in Table 3 revealed moderate to high levels across all dimensions: self-acceptance (M=3.42, SD=0.81), positive relations with others (M=3.47, SD=0.72), environmental mastery (M=3.68, SD=0.85), and personal growth (M=3.35, SD=0.66). These findings align with Ryff's (2013) conceptualisation of psychological well-being as a multidimensional construct encompassing positive psychological functioning and optimal human experience.

Table 3

*Descriptive Statistics*

Variable	Dimension	M	SD
<b>Psychological well-being</b>	Self-Acceptance	3.42	.81
	Positive Relations with others	3.47	.72
	Environmental Mastery	3.68	.85
	Personal Growth	3.35	.66
<b>Family caring attitude</b>	Emotional Support	3.77	.79
	Communication	2.89	.95
	Supportive Environment	3.14	.72
	Conflict Resolution	3.31	.69

*Family Caring Attitude*

Regarding family caring attitudes, respondents reported highest levels of emotional support (M=3.77, SD=0.79), followed by conflict resolution (M=3.31, SD=0.69), supportive environment (M=3.14, SD=0.72), and communication (M=2.89, SD=0.95). These findings correspond with research by Chen et al. (2020) suggesting that in Chinese culture, family support extends beyond material needs to include significant emotional and psychological support.

**Hypothesis Testing***Gender Differences in Family Caring Attitudes and Psychological Well-being*

Chi-square and Mann-Whitney U tests were conducted to examine gender differences in perceptions of family caring attitudes and psychological well-being. The results consistently showed no significant gender differences across all dimensions of family caring attitudes: emotional support ( $p=0.948$ ), communication ( $p=0.721$ ), supportive environment ( $p=0.692$ ),



and conflict resolution ( $p=0.360$ ). Similarly, no significant gender differences were found in psychological well-being ( $p=0.656$ ) (Table 4).

These findings contradict previous research suggesting gender differences in perceptions of family support and psychological outcomes (Huang et al., 2021). However, they support the notion that family caring attitudes may transcend gender differences in the Chinese cultural context, reflecting the collectivist orientation that emphasizes family cohesion and interdependence (Kagitcibasi, 2017).

Table 4

*Psychological Well-being and Gender (Chi-Square Tests)*

Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	20.053	33
Likelihood Ratio	21.412	33
Linear-by-Linear Association	0.156	1
N of Valid Cases	697	

*Note: 22 cells (32.4%) have an expected count of less than 5. The minimum expected count is 1.44.*

Table 5

*Mann-Whitney U Test Results for Family Caring Attitude by Gender (H01)*

Variable	Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
ES	Male	335	348.49	116744.00	60464.0	116744.0	-.065	.948
	Female	362	349.47	126509.00				
Comm	Male	335	351.82	117859.00	59691.0	125394.0	-.357	.721
	Female	362	346.39	125394.00				
SE	Male	335	345.86	115864.50	59584.5	115864.5	-.396	.692
	Female	362	351.90	127388.50				
CR	Male	335	341.78	114496.00	58216.0	114496.0	-.915	.360
	Female	362	355.68	128757.00				

*Note: ES = Emotional Support, Comm = Communication, SE = Supportive Environment, CR = Conflict Resolution*

Table 6

*Mann-Whitney U Test Results for Psychological Well-being by Gender (H03)*

Variable	Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
PWB	Male	335	345.47	115733.50	59453.500	115733.500	-.446	.656
	Female	362	352.26	127519.50				

#### *Age Differences in Family Caring Attitudes and Psychological Well-being*

Mann-Whitney U tests examining age differences revealed no significant differences between the 18-19 and 20-22 age groups across all dimensions of family caring attitudes. As shown in Table 7 below, emotional support ( $p=0.453$ ), communication ( $p=0.508$ ), supportive

environment ( $p=0.265$ ), and conflict resolution ( $p=0.072$ ). Similarly, no significant age differences were found in psychological well-being ( $p=0.847$ ).

These findings diverge from previous research suggesting that the significance of family support may change with age as students develop more independence (Li & Xu, 2020). The results suggest that family caring attitudes remain consistently important across the age range examined in this study, possibly reflecting the enduring importance of family support within Chinese culture throughout the college years.

Table 7

*Mann-Whitney U Test Results for Family Caring Attitude by Age (H04)*

Variable	Age	N	Mean Rank	Sum Ranks	of Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
ES	18-19 years	318	355.22	112961.5	58281.5	130291.5	-.750	.453
	20-22 years	379	343.78	130291.5				
Comm.	18-19 years	318	343.50	109234.5	58513.5	109234.5	-.663	.508
	20-22 years	379	353.61	134018.5				
SE	18-19 years	318	339.74	108037.0	57316.0	108037.0	-1.115	.265
	20-22 years	379	356.77	135216.0				
CR	18-19 years	318	334.09	106242.0	55521.0	106242.0	-1.800	.072
	20-22 years	379	361.51	137011.0				

#### *Relationship between Family Caring Attitudes and Psychological Well-being*

Ordinal regression analysis revealed a significant relationship between family caring attitudes and psychological well-being ( $\chi^2=4102.514$ ,  $df=39$ ,  $p=0.000$ ). This finding aligns with previous research establishing strong associations between family support and psychological well-being (Chan & Chui, 2020). It suggests that family emotional support, communication, supportive environment, and conflict resolution significantly influence college students' psychological well-being in the Chinese cultural context.

#### *Relationship between Teacher Caring Behaviours and Psychological Well-being*

Ordinal regression analysis also showed a significant relationship between teacher caring behaviours and psychological well-being ( $\chi^2=3950.492$ ,  $df=39$ ,  $p=0.000$ ). This finding highlights teachers' important role in supporting students' psychological well-being through emotional support, positive relationships, academic support, and classroom organisation.

#### *Moderating Effects of Gender and Age*

The study found no significant moderating effects of gender or age on the relationship between family caring attitudes and psychological well-being. The consistent lack of

significant differences across gender and age groups suggests that the influence of family caring attitudes on psychological well-being is relatively uniform across these demographic categories among college students in Shanxi, China.

These findings diverge from the hypothesised moderating effects and suggest that the relationship between family caring attitudes and psychological well-being may be more universal than expected within this cultural context. The results indicate that family support remains a crucial factor in psychological well-being, regardless of gender or age, within the college student population studied.

### **Summary**

The findings demonstrated that family caring attitudes significantly predict psychological well-being among college students in Shanxi, China. However, contrary to expectations, neither gender nor age significantly moderated these relationships. These results highlight the universal importance of supportive family and educational environments for college students' psychological well-being in the Chinese cultural context, transcending demographic differences.

The findings contribute to our understanding of the factors influencing psychological well-being among Chinese college students and suggest that interventions to enhance family support and teacher caring behaviours may benefit students across different genders and ages.

### **Discussions and Recommendations**

#### *Summary of Findings*

The research findings revealed several key insights regarding the relationship between family caring attitudes and psychological well-being among college students in Shanxi, China, and the potential moderating effects of gender and age on this relationship.

#### *Descriptive Findings*

Participants reported moderate to high levels of psychological well-being across all four dimensions: self-acceptance ( $M=3.42$ ,  $SD=0.81$ ), positive relations with others ( $M=3.47$ ,  $SD=0.72$ ), environmental mastery ( $M=3.68$ ,  $SD=0.85$ ), and personal growth ( $M=3.35$ ,  $SD=0.66$ ). These findings align with Ryff's (2013) conceptualization of psychological well-being as a multidimensional construct encompassing positive psychological functioning and optimal human experience.

Regarding family caring attitudes, participants reported the highest levels of emotional support ( $M=3.77$ ,  $SD=0.79$ ), followed by conflict resolution ( $M=3.31$ ,  $SD=0.69$ ), supportive environment ( $M=3.14$ ,  $SD=0.72$ ), and communication ( $M=2.89$ ,  $SD=0.95$ ). These findings correspond with research by Chen et al. (2020) suggesting that family support extends beyond material needs to include significant emotional and psychological support in Chinese culture

*Hypothesis Testing Results*

The following table summarises the results of hypothesis testing:

Table 8

*Summary of Hypothesis Testing Results*

Hypothesis	Statement	Result	Decision
H01	There is no significant difference in perceptions of family caring attitudes between male and female college students in Shanxi, China.	No significant differences found across all dimensions ( $p > 0.05$ )	Not Rejected
H02	There is no significant difference in psychological well-being between male and female college students in Shanxi, China.	No significant difference found ( $p = 0.656$ )	Not Rejected
H03	There is no significant difference in perceptions of family caring attitudes among different age groups of college students in Shanxi, China.	No significant differences found across all dimensions ( $p > 0.05$ )	Not Rejected
H04	There is no significant difference in psychological well-being among different age groups of college students in Shanxi, China.	No significant difference found ( $p = 0.847$ )	Not Rejected
H05	There is no significant relationship between perceptions of family caring attitudes and psychological well-being among college students in Shanxi, China.	Significant relationship found ( $\chi^2=4102.514$ , $df=39$ , $p=0.000$ )	Rejected
H06	Gender does not significantly moderate the relationship between family caring attitudes and psychological well-being among college students in Shanxi, China.	No significant moderating effect found	Not Rejected
H07	Age does not significantly moderate the relationship between family caring attitudes and psychological well-being among college students in Shanxi, China.	No significant moderating effect found	Not Rejected

**Discussion of Findings***Gender and Age Differences in Family Caring Attitudes and Psychological Well-being*

Contrary to expectations, the study found no significant gender differences in either perceptions of family caring attitudes or psychological well-being. This finding contradicts previous research suggesting that women generally experience different health outcomes than men (Li & Xu, 2020) and that gender disparities exist in mental health conditions (Huang et al., 2021; Yang et al., 2021). However, these results align with more recent studies suggesting that traditional gender differences in psychological outcomes may be diminishing in contemporary Chinese society, particularly among college-educated populations (Liu et al., 2019).

The absence of significant gender differences in perceptions of family caring attitudes could reflect the evolving nature of gender roles in modern Chinese families, especially in educational contexts. As Guo et al. (2024) noted, traditional gender-based expectations regarding family support may be less pronounced among younger, more educated populations. This finding suggests that family caring attitudes may transcend gender

differences in the Chinese cultural context, reflecting the collectivist orientation that emphasizes family cohesion and interdependence for all family members regardless of gender (Kagitcibasi, 2017).

Similarly, the study found no significant age differences in either perceptions of family caring attitudes or psychological well-being between the 18-19 and 20-22 age groups. This finding diverges from previous research suggesting that the significance of family support may change with age as students develop more independence (Li & Xu, 2020). The results instead suggest that family caring attitudes remain consistently important across the age range examined in this study, possibly reflecting the enduring importance of family support within Chinese culture throughout the college years.

The lack of age differences could be attributed to the relatively narrow age range examined (18-22 years) and the specific developmental stage (emerging adulthood) that characterises the college experience. As Cao et al. (2020) observed, Chinese college students face unique challenges regarding their cultural background and educational experiences that may create similar needs for family support across different ages within this developmental period.

#### *Relationship between Family Caring Attitudes and Psychological Well-being*

The study found a significant relationship between family caring attitudes and psychological well-being among college students in Shanxi, China. This finding aligns with previous research establishing strong associations between family support and psychological well-being across various populations (Chen et al., 2020; Chan & Chui, 2020; Wang & Yang, 2022).

This result supports the theoretical frameworks underpinning this study. From the perspective of Subjective Well-being Theory (Lijadi, 2018), family caring attitudes may contribute to students' positive evaluations of their lives and emotional experiences. Family Systems Theory (McHale & Sirotkin, 2019) provides a framework for understanding how the interconnected nature of family relationships influences individual well-being through systemic processes. Social Cognitive Theory (Bandura, 2002) helps explain how students internalise and respond to caring attitudes demonstrated by family members, potentially enhancing their psychological well-being through modelling and observational learning.

This relationship underscores the critical role of family support in the Chinese cultural context, where family bonds traditionally hold particular importance. Wang and Yang (2022) found that effective family communication nurtures a supportive environment where students can share their aspirations, concerns, and challenges, thereby enhancing their psychological well-being. Similarly, Li and Xu (2020) suggested that strong family ties develop a sense of stability for students, enhancing their self-esteem and serving as a buffer against the pressures associated with college life.

#### *Moderating Effects of Gender and Age*

Contrary to expectations, the study found no significant moderating effects of either gender or age on the relationship between family caring attitudes and psychological well-being. This finding suggests that the influence of family caring attitudes on psychological well-being is relatively uniform across gender and age groups among college students in Shanxi, China.

The absence of a significant moderating effect of gender contradicts research suggesting that gender differences exist in how family support influences psychological outcomes (Huang et al., 2021). Instead, this finding suggests that regardless of gender, Chinese college students may benefit similarly from family caring attitudes. This result could reflect the collectivist values in Chinese culture that emphasize the importance of family harmony and support for all family members (Kagitcibasi, 2017).

Similarly, the lack of a significant moderating effect of age suggests that family caring attitudes remain consistently important for psychological well-being across different age groups in the college student population. This finding diverges from developmental perspectives, suggesting that the influence of family might diminish as students age and develop greater independence (Li & Xu, 2020). Instead, it indicates that family support remains a crucial factor throughout the college experience, regardless of age.

These findings highlight the universal importance of family caring attitudes for college students' psychological well-being in the Chinese cultural context, transcending demographic differences. The results suggest that the relationship between family caring attitudes and psychological well-being may be more fundamental and consistent than previously thought, at least within the specific population and cultural context studied.

### **Theoretical and Practical Implications**

#### *Theoretical Contributions*

This study makes several important contributions to theoretical knowledge:

First, it extends understanding of the relationship between family caring attitudes and psychological well-being by examining this relationship in the specific cultural context of Chinese college students. The findings support the cross-cultural applicability of theoretical frameworks such as Subjective Well-being Theory, Family Systems Theory, and Social Cognitive Theory in understanding factors that influence psychological well-being.

Second, the study contributes to the literature on moderating factors in the relationship between family support and psychological outcomes. The finding that neither gender nor age significantly moderated this relationship challenges assumptions about demographic differences in the experience and impact of family support. This result suggests that in the Chinese cultural context, the influence of family caring attitudes on psychological well-being may be more universal than previously thought.

Third, the research provides empirical support for the multidimensional conceptualization of both family caring attitudes and psychological well-being. By examining specific dimensions of these constructs (emotional support, communication, supportive environment, and conflict resolution for family caring; self-acceptance, positive relations, environmental mastery, and personal growth for psychological well-being), the study offers a nuanced understanding of these complex phenomena.

#### *Practical Implications*

The findings of this study have several practical implications for various stakeholders:

For college students, the results underscore the importance of family support for psychological well-being. Students can benefit from recognising the value of maintaining



strong family connections and effective communication with family members during their college years. Additionally, the finding that this relationship remains consistent across gender and age groups suggests that all students, regardless of demographic characteristics, can benefit from positive family relationships.

For families, the research highlights the significant role they play in supporting college students' psychological well-being. The finding that emotional support was rated highest among family caring attitudes suggests that families should prioritize providing empathy, love, and care to their college-age children. Additionally, the lower rating for family communication ( $M=2.89$ ) indicates a potential area for improvement, suggesting that families might benefit from developing more effective communication strategies.

For educational institutions, the findings suggest the value of family-inclusive approaches to supporting student well-being. Colleges might consider implementing programs that strengthen family-student connections, such as family orientation sessions, regular family communication channels, and resources to help families effectively support their college students. Additionally, the lack of demographic differences in the findings suggests that such programs need not be highly tailored to specific gender or age groups but can instead focus on universal principles of effective family support.

For mental health professionals working with college students, the results highlight the importance of considering family dynamics when addressing psychological well-being. Interventions that strengthen family relationships and enhance family caring attitudes may be beneficial for improving students' psychological outcomes, regardless of gender or age.

## **Recommendations and Conclusions**

### *Recommendations for Families*

Families should prioritise emotional support for college students, recognising its significant role in promoting psychological well-being. As Chen et al. (2020) noted, in Chinese culture, family support extends beyond material needs to include significant emotional and psychological support. It is also important for families to improve their communication strategies, as this dimension received the lowest rating among family caring attitudes. Wang and Yang (2022) found that effective communication nurtures a supportive environment where students can share their aspirations, concerns, and challenges. Additionally, families should develop conflict resolution skills to create a more harmonious environment. Cummings et al. (2015) found that family characteristics such as conflict resolution approaches become particularly salient during transitions, providing individual protection and preparation.

### *Recommendations for Educational Institutions*

Educational institutions should implement family-inclusive approaches to supporting student well-being, recognizing the significant relationship between family caring attitudes and psychological well-being. This might include family orientation programs, regular communication channels with families, and resources to help families effectively support their college students. Institutions should also develop interventions that strengthen family-student connections, particularly in the areas of communication and creating supportive environments, which received relatively lower ratings in this study. Furthermore, providing

training for academic and student affairs staff on the importance of family connections for student well-being would enable them to better support students in maintaining positive family relationships during the college experience.

#### *Recommendations for Future Research*

Future research should include a wider age range and more diverse demographic characteristics to determine if the lack of moderating effects is specific to the population studied or represents a broader pattern. Conducting longitudinal studies would help examine how the relationship between family caring attitudes and psychological well-being might evolve, particularly as students progress through their college experience. Researchers should explore additional potential moderating variables, such as socioeconomic status, family structure, or geographical distance from family, which might influence the relationship between family caring attitudes and psychological well-being. Employing mixed-methods approaches that combine quantitative findings with qualitative insights would provide a deeper understanding of the mechanisms through which family caring attitudes influence psychological well-being in the Chinese cultural context. Finally, investigating how technology-mediated communication influences the relationship between family caring attitudes and psychological well-being would be valuable, particularly for students who live far from their families.

#### **Limitations of the Study**

The study has several limitations that should be acknowledged. The cross-sectional design limits the ability to establish causal relationships between variables or examine how these relationships might change over time. As Asenahabi (2019) noted, cross-sectional designs provide a snapshot of relationships but cannot establish causality. The reliance on self-report questionnaires may introduce common method bias and social desirability bias, potentially affecting the validity of the findings. Participants might have responded in ways they perceived to be socially desirable, particularly given the importance of family in Chinese culture. The study's focus on college students within a relatively narrow age range (18-22 years) may have contributed to the lack of significant age differences observed. A wider age range might have revealed more pronounced age effects. Additionally, the study was conducted in Shanxi province, China, which may limit the generalizability of findings to other regions or cultural contexts. As Dobosz and Hetmańczyk (2023) noted, educational contexts and family dynamics can vary significantly across different regions of China. Finally, the study did not control for potentially confounding variables such as socioeconomic status, family structure, or geographical distance from family, which might influence both family caring attitudes and psychological well-being.

#### **Conclusion**

This study investigated the moderating effects of gender and age on the relationship between family caring attitudes and psychological well-being among college students in Shanxi, China. The findings revealed a significant relationship between family caring attitudes and psychological well-being, highlighting the importance of family support for college students' mental health. However, contrary to expectations, neither gender nor age significantly moderated this relationship, suggesting that the influence of family caring attitudes on psychological well-being may be relatively uniform across demographic groups in this cultural context. The results contribute to our understanding of the factors influencing psychological

well-being among Chinese college students and suggest that interventions to enhance family support may benefit students across different genders and ages. The study's findings underscore the universal importance of supportive family environments for college students' psychological well-being in the Chinese cultural context, transcending demographic differences. Future research should expand upon these findings by examining additional potential moderating variables, employing longitudinal designs, and exploring these relationships in more diverse populations and cultural contexts. By continuing to investigate the complex interplay between family relationships and psychological well-being, researchers can contribute to the development of more effective strategies for supporting college students' mental health and overall well-being.

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