The Moderating Effect of Gender on the Relationship between Self-Esteem and Resilience among Chinese Undergraduate Students

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Abstract. The objective of this study was to research the link between self-esteem and resilience in Chinese college students, while also considering the potential moderating influence of gender. A total of 210 questionnaires were collected using an online survey, all of which were deemed legitimate. The data obtained from the questionnaire results was analyzed in this study using IBM SPSS Statistics. Descriptive statistics, linear regression, and moderated effects analysis were employed to examine the relationships and interactions among the various elements under investigation. The findings of the study suggest that there exists a noteworthy and favorable association between self-esteem and adaptability, with gender playing a substantial role as a moderator. The correlation among self-esteem and resilience showed a greater degree of significance within the female cohort as opposed to the male cohort. The results of this study highlight the considerable impact of self-esteem on resilience and provide valuable perspectives on gender roles. This study presents various solutions aimed at augmenting resilience levels among university students in China. By considering the impact of social and cultural circumstances on individuals' self-perceptions, it becomes possible to formulate more comprehensive interventions tailored to certain age and gender cohorts.

Keywords: self-esteem, resilience, gender.

1. Introduction

Resilience is a broad concept that can be broken down into three categories: personality traits, process, and outcome. Definitions of resilience can be grouped into these three categories in existing literature and research. From the perspective of personality traits, resilience belongs to a positive personality trait, people can recover from adversity and can adapt, grow, and mature to a certain extent in the face of difficulties. The higher people's self-resilience, the more relaxed and comfortable their coping styles in relationships [1]. When people encounter problems or pressure, some people are overwhelmed by difficulties and shrink back, and even have physical or psychological problems. On the other hand, some people can face up to difficulties, be tough, and face problems bravely. Resilience explains how people differ in this ability. High or low levels of resilience make a difference in the support individuals receive when coping with difficulties. Self-esteem is an individual's comprehensive and affirmative assessment of oneself. Self-esteem can be conceptualized as comprising two distinct dimensions: the ability dimension and the value dimension. The competency component pertains to individuals' assessment of their own capabilities and self-efficacy. The value dimension pertains to individuals' subjective assessment of their own perceived level of worth. Self-esteem is regarded as a valuable psychological asset that holds significant influence in the psychological maturation of individuals enrolled in higher education institutions. Individuals that demonstrate elevated levels of self-esteem typically hold more positive self-evaluations, display increased self-confidence, and experience heightened degrees of self-satisfaction. Individuals exhibiting poor self-esteem tend to harbor a greater propensity for negative self-appraisals, exhibit diminished self-assurance, and experience reduced levels of personal contentment.

Researchers administered a survey to 438 college students. The findings suggest a statistically significant and favorable link between self-esteem and resilience [2]. The promotion of pleasant emotions may be influenced by resilience, hence potentially impacting self-esteem. A research

investigation was conducted to explore the correlation between resilience and self-esteem, employing 240 participants. The participants underwent the administration of questionnaires that evaluated various dimensions. It may be inferred that the impact of resilience on self-esteem is potentially attributable to its enhanced regulation of affect [3].

The potential influence of gender as a moderating factor in the association between self-esteem and resilience might be observed. Gender disparities can give rise to variations in resilience. In a comprehensive examination of a sample comprising 1,109 male students and 1,163 female students, the findings of the study revealed that female students exhibited superior abilities in the domains of empathy, communication, and help-seeking when compared to their male counterparts. The variations in these differences are contingent upon age and are not consistently uniform across gender or age limitations [4]. A divergent outcome was identified in an independent study that examined the association between resilience ratings among university students and various attributes, such as gender. The resilience levels of 596 college students were assessed through the utilization of the Resilience Scale. The findings of the research indicated that male participants exhibited considerably higher degrees of resilience in comparison to their female counterparts. A study revealed a noteworthy relationship among gender and teachers with respect to degrees of resilience [5]. The existing body of literature on to resilience likewise conveys comparable viewpoints. The researchers reached the conclusion that women had comparatively lower levels of resilience in comparison to men. The observed phenomenon can potentially be attributed to a confluence of factors including the social milieu, societal attitudes, and normative expectations. The attitudes of men and women to challenges and hardships are consequently impacted [6].

Decades of studies have underscored the significance of self-esteem. Academic researchers often demonstrate a correlation between self-esteem and well-being or positive outcomes. Individuals who possess elevated levels of self-esteem demonstrate a heightened inclination to confront and successfully traverse obstacles, hence resulting in more advantageous results, in contrast to individuals with lower self-esteem. Gender differences can exert an influence on self-esteem to a certain degree. A total of 1,239 adolescents were surveyed by the researchers. In contrast to life satisfaction, self-esteem places greater emphasis on the individual's subjective assessment of their own worth and value. The results revealed that males demonstrated higher degrees of self-esteem and life satisfaction in comparison to females [7]. A study investigated the association of gender and self-esteem and resilience among a sample of 729 Thai undergraduates using a cross-sectional survey methodology [8]. Self-esteem encompasses various aspects of an individual's perception of their own value and worth. The existing body of research indicates a prevailing trend wherein men tend to demonstrate elevated degrees of self-esteem. Nevertheless, the association between gender and self-esteem is not fixed or unchanging. The degrees of individuals' self-esteem may vary during various phases of their developmental process. There exists variation in degrees of self-esteem across many dimensions between men and women. There is evidence to suggest that males tend to demonstrate elevated levels of self-esteem in relation to exercise, personal contentment, physical appearance, and related domains. However, while considering matters of morality and ethics, the degree of self-esteem tends to be comparatively diminished. There is evidence to suggest that both men and women exhibit comparable levels of self-esteem in several domains, including emotions, academics, and social approval. In general, the phenomenon of gender variations in self-esteem exhibits a multifaceted and ever-evolving nature.

The current body of scholarly literature mostly centers on the examination of the connection with self-esteem and resilience. However, there is a conspicuous lack of research especially exploring Chinese undergraduate populations. Furthermore, the research on the potential moderating influence of gender remains limited in this area. China's social environment has the potential to influence the adjustment variable of gender. The present study will utilize an online questionnaire survey as a research methodology to research the link involving self-esteem and resilience among undergraduates in China. The objective of this study is to investigate the potential moderating influence of gender disparities on the aforementioned association. It is envisaged that the sex ratio will exhibit equality,

with a ratio of 1:1. The present study posits two research hypotheses: (1) A favorable correlation has been observed of the degree of self-esteem among undergraduate students in China and their psychological resilience. (2) The gender of college students has been identified as a moderating element in the correlation between self-esteem and resilience.

2. Research Method

2.1. Object and Method

The study sample comprised Chinese undergraduates, aged between 18 and 22 years. They were recruited through the administration of online questionnaires. A grand total of 228 surveys were distributed, out of which 210 were deemed legitimate. The questionnaire demonstrated a recovery rate of 92.11%, indicating a high level of validity. Out of the total sample size, 96 individuals were identified as male, while 114 individuals were identified as female. The ratio of males to females is 1:1.2.

2.2. Tools

2.2.1 Rosenberg Self-Esteem Scale (RSES)

Researchers employed the Chinese adaptation of the RSES. This scale comprises a total of ten components. The set of ten items comprises an equal distribution of five items with positive scores and five items with negative scores. The scale is assessed using a 4-point scoring system, ranging from 1 (indicating a high degree of inconsistency) to 4 (indicating a high degree of consistency). A greater cumulative score is indicative of an elevated degree of self-esteem. According to a study, the Chinese version of the RSES demonstrates a reliability coefficient exceeding 0.83 [9].

2.2.2 Connor-Davidson Resilience Scale (CD-RISC)

The present study utilized the Chinese adaptation of the CD-RISC. The measurement instrument comprises a total of 25 items. Each item is assessed on a number scale that spans from 1 to 5, including the entire spectrum from "never" to "always." A greater score is indicative of an elevated degree of mental resilience. The reliability coefficient for the CD-RISC is reported to be 0.91 [10].

2.3. Statistical Processing

The data was processed and analyzed using IBM SPSS statistical software.

3. Research Results

3.1. Descriptive Statistics

The dataset includes two main variables: "selfesteem" and "resilience". Participants were divided into two groups: a group of boys (coded 1) and a group of girls (coded 2). The average value of self-esteem was found to be 17.967, whereas the average value of resilience was determined to be 61.276. As shown in Table 1, after centralized data processing, the mean scores of males' self-esteem and resilience were 0.0955 (standard deviation = 5.60791) and 2.6719 (standard deviation = 18.97387). The mean scores of self-esteem and resilience were -0.0810 (SD = 5.26091) and -2.2497 (SD = 17.32892) in the female group.

Table 1. Descriptive Statistics

Gender	Mean	Std. Deviation	N
1			
resilience	2.6719	18.97387	96
selfesteem	0.0955	5.60791	96
2			
resilience	-2.2497	17.32892	114
selfesteem	-0.0810	5.26091	114

3.2. Linear regression analysis

The findings presented in Table 2 indicate a statistically significant association between self-esteem and resilience among male students ($\beta = 0.489$, $p < 0.001$). A comparable and noteworthy association was observed between self-esteem and resilience among female students, with a beta coefficient of 0.683 and a p-value less than 0.001. The findings indicated that self-esteem exerted a beneficial influence on the resilience levels of both male and female cohorts.

Table 2. Linear Regression Analysis

Gender	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
1				
Constant	2.514		1.480	.142
selfesteem	1.655	0.489	5.439	.000
2				
Constant	-2.067		-1.736	.085
selfesteem	2.249	0.683	9.891	.000

** $p < 0.001$

Note: A linear regression analysis was conducted to examine the relationship between resilience (dependent variable) and self-esteem (independent variable).

3.3. Moderation Analysis

The findings presented in Table 2 indicate that gender has a substantial role in regulating the observed outcomes. The findings suggest that a noteworthy interaction occurred between self-esteem and gender among the male participants ($\beta = 0.489$, $t = 5.439$, $p < 0.001$). The connection between the terms demonstrated statistical significance within the female group as well ($\beta = 0.683$, $t = 9.891$, $p < 0.001$). The results suggest that the link between self-esteem and resilience is dependent on gender, with a stronger impact reported among females.

4. Discussion

The present study employed an online questionnaire to examine the self-esteem and resilience levels of Chinese undergraduate students. The collected data was then subjected to analysis using IBM SPSS Statistics. This initiative will contribute to the advancement of knowledge on mental health among college students and offer potential avenues for further investigation and intervention strategies.

The findings of this research demonstrate a favorable correlation between self-esteem and degrees of resilience. Individuals who possess elevated degrees of self-esteem are also inclined to demonstrate elevated levels of resilience. This observation aligns with the outcomes of previous research studies [2]. Irrespective of gender, individuals' self-perceptions exert an impact on their capacity to navigate and overcome crises and challenges. Furthermore, scholarly investigations in the field of social cognitive neuroscience offer potential elucidations. Individuals who possess elevated levels of self-esteem exhibit increased thresholds for the detection of threatening stimuli.

Individuals who possess elevated levels of self-esteem exhibit a reduced tendency to interpret stressful occurrences as hazardous or diminish the perceived level of threat associated with such situations [11]. Hence, the presence of favorable self-perceptions can enhance individuals' capacity to confront challenges, and self-esteem can serve as a safeguard for resilience. Therefore, the facilitation of increased levels of self-esteem is of paramount importance in bolstering individuals' resilience.

The current research revealed that males exhibit greater scores in terms of self-esteem compared to females. However, the disparity in self-esteem levels between men and women remains subject to change [7]. The magnitude of this gender disparity may fluctuate based on the specific field of study or area of interest. There is a similarity in the levels of self-esteem between men and women within some domains. The resilience levels of boys and females exhibit comparable outcomes. There exists a disparity in resilience levels between men and women, with males generally exhibiting higher levels of resilience [5]. However, it should be noted that the variation in resilience is also dependent on age [4]. This study employed a sample of Chinese undergraduate college students aged 18 to 22 to investigate the interplay among gender, self-esteem, and resilience through the application of moderated effects analysis. The significance of self-esteem in enhancing resilience was significant in both male and female cohorts, with a more notable impact shown in the female cohort. This may encompass a position within the socio-cultural context. The extent to which individuals perceive themselves and their capacity to navigate challenges is influenced by the internalization of gender roles and societal expectations.

The role of gender needs to be specifically considered in research on people's mental health. The differential impact of self-esteem on resilience in different gender groups emphasizes the complexity of these factors as they interact. The present study both provides ideas for future improvements in resilience levels in the target population and emphasizes the need for more nuanced interventions for different gender and age groups. Interventions developed based on the gender and age of the target population could better improve resilience levels in this population. In future studies, more consideration needs to be given to the influence of socio-cultural context on people's perceptions.

The present study is subject to many limitations. The utilization of cross-sectional data in this study imposes constraints on the researcher's ability to investigate the dynamic progression of the study population. Furthermore, the data utilized in this research were self-reported by the participants. The presence of bias may have been induced. In future research endeavors, it is crucial to consider additional factors such as participants' income and geography. This can be achieved by employing longitudinal or multi-methodological methods to enhance the ability to be generalized and the reliability of the results.

5. Conclusion

The findings derived from the data analysis conducted in this study underscore the significance of self-esteem as a predictive factor for resilience. The statistical analysis yielded results that demonstrated the statistical significance of the regression coefficients, suggesting that self-esteem played a substantial role in influencing the development of resilience. Furthermore, the influence of gender as a moderating factor was apparent. The association between self-esteem and resilience exhibits some degree of gender-based variability. The correlation between self-esteem and resilience is notably stronger within the female demographic. The study's findings show the interconnectedness of self-esteem, resilience, and gender.

The findings of this study also offer insights for enhancing resilience and implementing successful strategies. It is imperative for researchers to take into account the gender-specific impacts. There is an expectation that the implementation of customized interventions targeted toward specific age groups and genders will augment the effectiveness of initiatives aimed at promoting mental health within various populations.

In summary, the utilization of IBM SPSS statistical software facilitated the examination of intricate relationships among self-esteem, resilience, and gender. The present analysis makes a valuable contribution to the broader examination of the interrelationships among self-esteem, resilience, and gender. Furthermore, it serves as a valuable reference point for future research endeavors and interventions within the field of mental health.

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