

RELATIONSHIP BETWEEN RESILIENCE AND PSYCHOLOGICAL WELL-BEING AMONG COLLEGE STUDENTS

Original Article

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ABSTRACT

Background: The transition into college represents a critical developmental phase often accompanied by emotional, academic, and social challenges. Psychological well-being and resilience serve as crucial protective factors that help students navigate this stressful period. In countries like Pakistan, where academic pressure and sociocultural expectations are particularly high, understanding the interaction between these two psychological constructs is vital for mental health promotion in youth.

Objective: To investigate the correlation between resilience and psychological well-being among college students in Pakistan, and to assess how age, gender, and socioeconomic status influence these variables.

Methods: A cross-sectional quantitative study was conducted among 250 college students aged 15 to 23 years from Rawalpindi and Islamabad. Participants were selected using convenience sampling. The Brief Resilience Scale (BRS) and Ryff's Psychological Well-Being Scale were employed to assess resilience and psychological well-being, respectively. Descriptive statistics, Kolmogorov-Smirnov tests for normality, Spearman's rho correlation, Mann-Whitney U tests, and Kruskal-Wallis tests were used for analysis in SPSS version 25.

Results: The mean psychological well-being score was 117.86 (SD = 6.67), while the mean resilience score was 20.89 (SD = 4.13). The Spearman's rho correlation coefficient of 0.079 indicated a weak positive relationship between the two variables. Male students scored higher on both resilience (Mean rank = 146.47) and psychological well-being (Mean rank = 136.51) compared to females. Significant differences in resilience were found across age groups ($\chi^2 = 14.87$, $p = 0.001$) and socioeconomic classes ($\chi^2 = 7.26$, $p = 0.02$), but not in psychological well-being.

Conclusion: Resilience was modestly associated with psychological well-being, with variations across demographic subgroups. The findings underscore the need for targeted mental health programs focused on enhancing resilience among college students.

Keywords: Adolescent Development, College Students, Gender Differences, Psychological Well-Being, Resilience, Socioeconomic Factors, Stress Adaptation.

INTRODUCTION

The rising mental health concerns among college students have prompted increasing scholarly interest in understanding the psychological factors that contribute to their well-being. Resilience, defined as the capacity to adapt positively in the face of adversity, has emerged as a key protective factor that buffers against psychological distress. This relationship between resilience and psychological well-being is particularly important to explore within the context of Pakistani college students, who navigate a complex landscape of academic pressure, cultural expectations, career uncertainty, and financial challenges (1). The unique stressors within the Pakistani sociocultural setting—ranging from collectivist family structures to limited socioeconomic mobility—underscore the need for localized research to better understand the factors that promote psychological health in youth (2,3). While global studies have examined resilience and psychological well-being, there is a noticeable lack of research focusing specifically on how these constructs interact in Pakistani college students. College years mark a critical developmental phase that shapes identity, coping strategies, and emotional regulation. During this transition from adolescence to adulthood, young individuals often face escalating academic demands, societal expectations, and familial responsibilities that may exceed their coping capacity (4). These stressors contribute to elevated levels of depression, anxiety, and psychological strain, making resilience an indispensable tool for maintaining mental health (5,6).

Resilience has been conceptualized as a dynamic process involving personal attributes such as optimism, emotional regulation, and adaptability, as well as external factors like social support, community resources, and educational opportunities (7,8). Psychological well-being, on the other hand, encompasses a multidimensional understanding of an individual's life satisfaction, emotional health, purpose, and social connectedness (9,10). Theoretical frameworks such as Ryff's model and the eudaimonic approach highlight the relevance of self-acceptance, autonomy, and positive relationships as core dimensions of psychological well-being (11,12). Notably, resilience has been found to enhance these components by enabling individuals to manage adversity effectively and sustain their mental health (13,14). Despite a wealth of international evidence supporting the positive association between resilience and well-being, its cultural interpretation in Pakistan remains underexplored. Socioeconomic instability, political uncertainty, and limited access to mental health resources further complicate this dynamic (15,16). In Pakistani youth, collectivist values, gender norms, and parental expectations shape their ability to cope with life's challenges. For instance, family support, peer relationships, and even digital social communities have been shown to foster resilience and well-being in young individuals (17,18). However, contrasting evidence exists regarding gender differences, with some studies suggesting that females exhibit greater emotional expressiveness and interpersonal sensitivity, while others report higher resilience levels among males due to societal advantages (19–22).

Given this contextual complexity, there is a pressing need to examine resilience and psychological well-being through the lens of Pakistani college students. A deeper understanding of how demographic variables such as age, gender, and socioeconomic status influence these psychological constructs can lead to the development of culturally grounded interventions. These interventions can foster emotional strength, enhance coping capacities, and ultimately contribute to healthier academic and personal lives. This study therefore seeks to investigate the correlation between resilience and psychological well-being among male and female college students in Pakistan. By employing validated psychometric instruments—the Brief Resilience Scale and the Psychological Well-being Scale—and conducting statistical correlation analysis using SPSS, the research aims to fill the literature gap and provide insights for mental health support strategies tailored to the Pakistani academic context.

METHODS

The study employed a correlational research design to explore the relationship between resilience and psychological well-being among college students within the Pakistani context. A total of 250 participants were selected using a convenience sampling technique from various educational institutions in Rawalpindi and Islamabad. The target population comprised college students aged between 15 and 23 years, representing both male and female genders across diverse socioeconomic backgrounds—classified as lower, middle, and upper class. Inclusion criteria required participants to be enrolled in a college program and willing to provide informed consent. Individuals with diagnosed physical or mental disabilities were excluded to ensure a homogenous cognitive baseline for psychological assessments. Prior to data collection, formal approval was obtained from the institutional review board. Ethical principles were strictly adhered to throughout the research process. Participants were informed about the purpose of the study and assured of the confidentiality of their responses. Written informed consent was obtained from all participants. Anonymity was maintained using coded identifiers, and participants were provided the option to withdraw at any point without penalty.

The instruments used for data collection were standardized and psychometrically validated. Resilience was measured using the Brief Resilience Scale (BRS), a six-item self-report scale designed to assess an individual's ability to recover from stress. The scale includes items addressing adaptive coping, emotional recovery, and functioning under pressure, each rated on a 5-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). The total resilience score was calculated by summing responses, with higher scores indicating greater resilience. Psychological well-being was assessed using the Ryff Scales of Psychological Well-Being, which measures six dimensions: self-acceptance, purpose in life, positive relations, autonomy, environmental mastery, and personal growth. Each dimension was evaluated using three items on a 7-point Likert scale, ranging from "strongly agree" (1) to "strongly disagree" (7), allowing for a nuanced understanding of participants' mental well-being across different domains. The total psychological well-being score was derived from the cumulative responses across the six domains.

Data were collected via structured questionnaires administered in person. Each participant first completed a demographic information sheet followed by the BRS and Ryff Scales. Care was taken to ensure that responses reflected personal experiences and not peer-influenced answers. The completed data were entered and analyzed using IBM SPSS (Statistical Package for Social Sciences) version 25. Initial analysis included descriptive statistics such as mean, standard deviation, skewness, and kurtosis to examine data distribution. The Kolmogorov-Smirnov test was used to test normality, and Cronbach's alpha was calculated to determine the internal consistency and reliability of the scales. Inferential statistics were applied to examine associations and group differences. Spearman's rho correlation was used to determine the strength and direction of the relationship between resilience and psychological well-being, given the potential non-parametric nature of the data. Group comparisons between male and female participants were conducted using the Mann-Whitney U test, while variations across different socioeconomic classes and age groups were analyzed using the Kruskal-Wallis test. These non-parametric tests were chosen due to potential violations of normality and homogeneity assumptions.

RESULTS

A total of 250 college students participated in the study, with 48% being male and 52% female. The majority of respondents (70.8%) were between the ages of 18 and 20. Regarding socioeconomic status, 34.8% belonged to the high-income group, 53.6% to the middle class, and 11.6% to the lower-income class. The mean score for psychological well-being was 117.86 with a standard deviation of 6.67 and a range of 30, indicating that participants demonstrated generally high levels of psychological well-being. This reflected a moderate variability in psychological health across the sample. In contrast, resilience scores ranged from 18 to 20.89 with a standard deviation of 4.13, suggesting a moderate level of resilience with less variability compared to psychological well-being. The internal consistency reliability coefficient for the psychological well-being scale was high ($\alpha = 0.82$), while the Brief Resilience Scale also showed acceptable internal consistency. Normality of the data was assessed through skewness, kurtosis, and the Kolmogorov-Smirnov test. The psychological well-being scores exhibited a slight negative skew (-0.33) and a kurtosis of -0.75 , indicating a flatter and left-skewed distribution. Similarly, resilience scores were nearly symmetric (skewness = -0.08) and platykurtic (kurtosis = -0.90). Both variables had Kolmogorov-Smirnov p-values < 0.05 , suggesting a deviation from normality; however, due to the large sample size and symmetrical distributions, the data were considered sufficiently normal for non-parametric testing.

The Spearman's rho correlation coefficient was 0.07, reflecting a weak positive but statistically non-significant association between resilience and psychological well-being. This result suggests that although resilience may contribute to psychological well-being, other influential factors likely exist that independently impact both constructs. Gender-based comparisons using the Mann-Whitney U test revealed that male students had higher mean ranks for both psychological well-being (136.51 vs. 115.33) and resilience (146.47 vs. 106.15) compared to female students. These differences were statistically significant for both psychological well-being ($U = 6478$, $p = 0.02$) and resilience ($U = 5284$, $p < 0.001$), indicating that male students scored significantly higher than females on both scales. Age-based differences were examined using the Kruskal-Wallis test. No significant differences were found in psychological well-being across age groups ($\chi^2 = 4.27$, $df = 2$, $p = 0.11$), while resilience scores differed significantly by age ($\chi^2 = 14.87$, $df = 2$, $p = 0.001$). Participants aged 15–17 years showed the highest mean rank in resilience scores, suggesting younger students reported greater resilience compared to older age groups. Regarding socioeconomic status, psychological well-being did not significantly differ across income groups ($\chi^2 = 1.78$, $df = 2$, $p = 0.41$). However, a significant difference was found in resilience scores based on socioeconomic background ($\chi^2 = 7.26$, $df = 2$, $p = 0.02$), with students from high-income families demonstrating higher resilience levels compared to those from middle and low-income groups.

The interaction effects between gender and socioeconomic status (SES) on resilience and psychological well-being were further analyzed through subgroup correlation analysis. The Spearman's rho correlation coefficients were calculated separately for each gender-SES combination. Results indicated a moderate positive correlation between resilience and psychological well-being among females in both the high SES group ($r = 0.38$) and middle SES group ($r = 0.37$), suggesting that resilience more strongly predicted well-being in these subgroups. In contrast, a negative correlation was observed among females from low SES backgrounds ($r = -0.64$), indicating that higher resilience did not correspond to higher well-being in this subgroup, potentially due to overwhelming environmental or structural stressors. Among male participants, the correlation was weakly positive in the high SES group ($r = 0.10$) but turned negative in the low SES group ($r = -0.28$), further highlighting the divergent patterns based on socioeconomic stratification. These findings underscore the need for tailored interventions that consider the complex interplay between gender, socioeconomic conditions, and psychological resilience.

Table 1: Normality Assessment of Psychological Well-Being and Resilience Scores Using Skewness, Kurtosis, and Kolmogorov-Smirnov Test

Variable		Skewness	Kurtosis	Kolmogorov-Smirnov value	P value
Psychological well-being		-0.33	-0.75	0.13	0.00
Resilience score		-0.08	-0.90	0.08	0.001

Table 2: Gender-Based Comparison of Psychological Well-Being and Resilience Scores Using Mann-Whitney U Test

Variable		Male score (Mean)	Female score (Mean)	Mann-Whitney 'U'	P value
Psychological well-being		136.51	115.33	6478	0.02
Resilience score		146.47	106.15	5284	0

Table 3: Comparison of Psychological Well-Being and Resilience Across Age Groups Using Kruskal-Wallis Test

Variable		Age Groups			Degree of Freedom	Chi-square	P- Value
		15-17	18-20	21 & above			
Psychological well-being		136.51	115.33	6478	2	4.27	0.11
Resilience score		146.47	106.15	5284	2	14.87	0.001

Table 4: Comparison of Psychological Well-Being and Resilience Across Socioeconomic Status Groups Using Kruskal-Wallis Test

Variable		Socio Economic Status			Degree of Freedom	Chi-square	P- Value
		High class	Middle class	Low class			
Psychological well-being		130.05	120.16	136.53	2	1.78	0.41
Resilience score		142.16	115.64	121.09	2	7.26	0.02

Table 5: Subgroup Correlation

Gender	SES	Correlation
Female	High	0.384
	Low	-0.640
	Middle	0.368
Male	High	0.099
	Low	-0.278

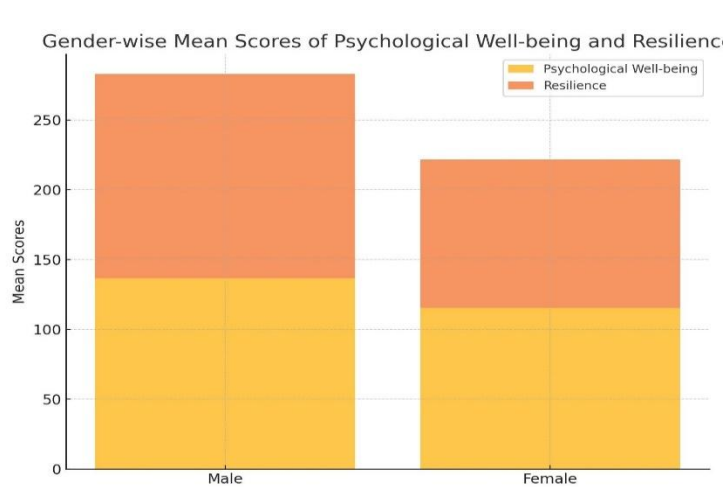


Figure 1 Gender-wise Mean Scores of Psychological Well-being and Resilience

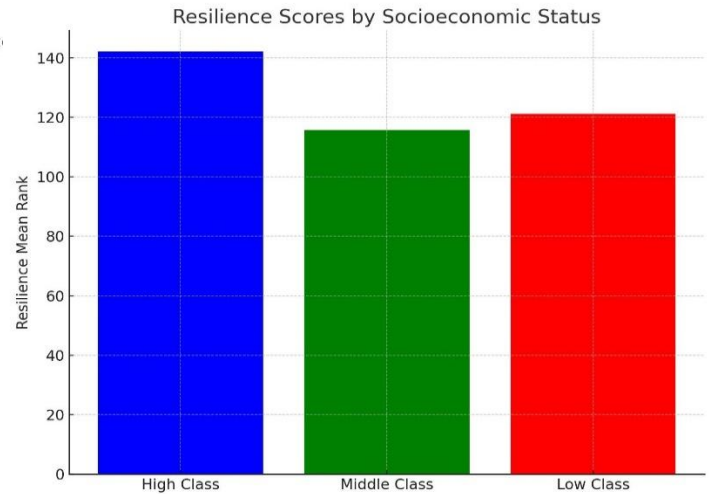
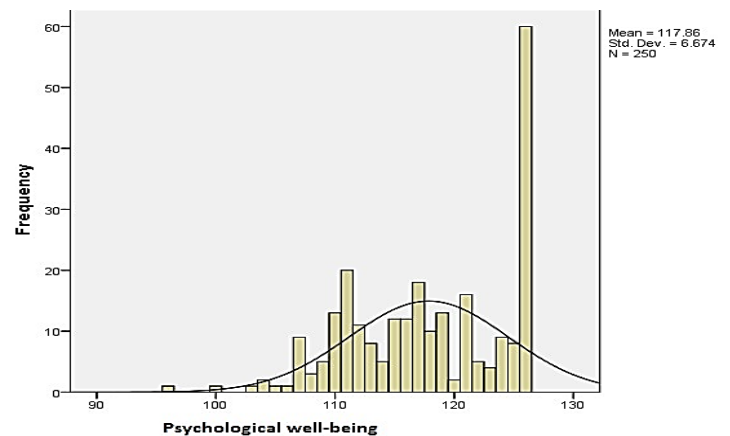
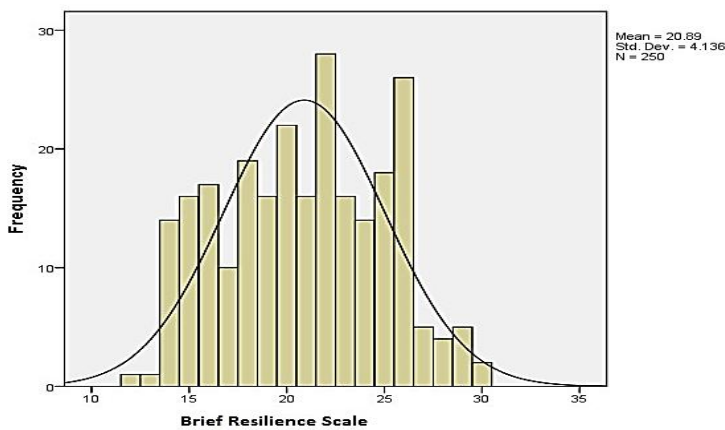


Figure 2 Resilience Scores by Socioeconomic Status



DISCUSSION

The findings of the current study provide a nuanced understanding of the relationship between resilience and psychological well-being among college students in Pakistan, shedding light on the influence of gender, age, and socioeconomic status on these constructs. The overall weak positive correlation between resilience and psychological well-being, while statistically non-significant, suggests a complex interplay of contributing factors that extend beyond individual coping capacities. These results align with prior studies highlighting that psychological well-being is a multidimensional construct influenced by personal, social, and contextual factors, rather than resilience alone (12). While resilience contributes positively to mental health outcomes, its isolated role may not sufficiently predict psychological well-being in all subpopulations. A notable finding was the significantly higher scores of psychological well-being and

resilience among male participants compared to females. This gender difference corroborates findings from earlier research, which suggest that men may report higher resilience due to gendered socialization favoring emotional suppression and externalizing coping strategies, which are perceived as signs of strength in patriarchal societies like Pakistan (13). However, other studies report higher resilience among females, especially in collectivist cultures, due to their relational orientation and adaptability in adverse environments (14,17). The inconsistency of gender-based resilience across contexts highlights the role of cultural, familial, and societal influences in shaping psychological outcomes, necessitating culturally sensitive interpretations.

The study further revealed significant variations in resilience across age groups, with younger students (15–17 years) demonstrating higher resilience levels than their older counterparts. This contradicts the general developmental understanding that resilience tends to increase with age due to accrued life experiences and maturation of coping mechanisms (15,19). The current findings might reflect greater optimism, fewer responsibilities, or more parental support among younger participants, especially in collectivist familial contexts. Conversely, older students might be more exposed to external stressors such as career uncertainty, financial pressures, or academic competitiveness, all of which could compromise their resilience despite increased maturity. Socioeconomic status emerged as a significant determinant of resilience but not of psychological well-being. Students from high-income backgrounds reported higher resilience scores, supporting previous evidence that access to resources, educational opportunities, and secure environments enhance coping capacities (20,22). Interestingly, psychological well-being did not differ significantly across SES groups. This may suggest that while economic privilege enhances adaptive responses to stress, it does not necessarily translate into higher subjective well-being, especially if accompanied by high parental expectations, performance pressure, or emotional detachment within high-status families (21,23). Conversely, individuals from lower SES groups might derive well-being from social connectedness, religious engagement, or community support, even in the absence of material resources.

The subgroup correlation analysis provided critical insight into the interaction between gender and socioeconomic status. Female students from high and middle SES backgrounds showed moderate positive correlations between resilience and psychological well-being, suggesting that under supportive conditions, resilience may significantly enhance well-being in women. However, a striking negative correlation was observed among females from low SES backgrounds, indicating a dissonance between personal coping and broader systemic adversities. In this group, resilience may be overshadowed by chronic stressors such as poverty, gender-based restrictions, and educational limitations, limiting its effectiveness in promoting psychological well-being (24). Among male students, the positive association between resilience and well-being was weaker and even negative in low SES contexts, reinforcing that resilience alone may not buffer against systemic disadvantage. Methodologically, the study benefitted from using well-validated psychometric tools—the Brief Resilience Scale and Ryff’s Psychological Well-Being Scale—both of which demonstrated good internal consistency within the sample. The inclusion of participants from different socioeconomic strata and age groups added to the diversity and generalizability of the findings within the urban Pakistani college context. Furthermore, the application of non-parametric statistical tests and subgroup analyses enhanced the interpretive depth of the results.

Nonetheless, the study had several limitations. The use of a convenience sampling method restricts the generalizability of the findings to the broader population. The cross-sectional design prevents causal inferences between resilience and psychological well-being. Self-reported data may also be influenced by social desirability bias or individual differences in insight and self-awareness. Additionally, the study did not account for other psychological constructs such as anxiety, depression, or family dynamics that may mediate the relationship between resilience and well-being. Future research should consider longitudinal designs and structural equation modeling to better understand these relationships. Including qualitative data may also provide deeper context and narratives to complement quantitative findings. In light of these findings, interventions aimed at improving college students’ mental health should consider not just enhancing resilience but also addressing contextual variables such as gender-based expectations and socioeconomic disparities. University-based support programs, peer mentoring, and culturally tailored resilience training could help bridge the gap between psychological stress and well-being. Ultimately, resilience is not merely an individual trait but a social process shaped by environmental structures, necessitating holistic approaches in both research and practice.

CONCLUSION

This study concluded that resilience plays a modest but meaningful role in supporting psychological well-being among college students in Pakistan, with notable differences observed across gender, age, and socioeconomic backgrounds. Male students and those from higher socioeconomic groups demonstrated greater resilience and well-being, while younger students appeared more adaptive in the face of

stress. Although resilience alone was not a strong predictor of psychological health, its presence may act as a buffer against external pressures in specific subgroups. These findings underscore the need for educational and psychological interventions tailored to the developmental and social realities of Pakistani youth. Programs that cultivate emotional intelligence, self-reliance, and adaptive coping skills can meaningfully contribute to improving student mental health. Future research should further explore cultural and contextual factors to inform more inclusive and sustained support strategies.

AUTHOR CONTRIBUTION

Author	Contribution
Amber Awan*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Noor Ul Eman	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Mussarat Shabbir	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published
Abid Iqbal	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Amna Khan	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published

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