

Research Paper

Effect of Perceived Stress, Self-esteem and Loneliness, on Mental Well-being among University Students

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ABSTRACT

This research investigated the influence of perceived stress, self-esteem, and loneliness on the mental well-being of university students. A sample of 620 young adults from Bangabandhu Sheikh Mujibur Rahman Science and Technology University participated in the study. Participants completed self-report questionnaires assessing perceived stress, self-esteem, loneliness, and mental health continuum. The results revealed significant gender differences, with male participants reporting higher levels of self-esteem and emotional well-being, while female participants exhibited higher levels of perceived stress and loneliness. Correlation analyses demonstrated significant associations among self-esteem, perceived stress, loneliness, and various dimensions of well-being. Specifically, higher levels of self-esteem were associated with greater emotional, social, and psychological well-being, while loneliness was inversely related to overall well-being. Multiple regression analysis revealed that self-esteem and loneliness were significant predictors of well-being, explaining approximately 21% of the variance. These findings underscore the importance of addressing psychological factors such as self-esteem and loneliness in promoting mental well-being among university students. Recommendations for targeted intervention programs, psychoeducational workshops, and enhanced social support systems are provided based on the study's findings. Overall, this study contributes valuable insights into the complex interplay of psychological factors influencing mental health outcomes in the university setting.

Keywords: *Mental Well-being, Perceived Stress, Self-esteem, Loneliness, Social Support*

The transition to university life represents a critical period characterized by numerous challenges and stressors that can significantly impact students' mental well-being. Mental health issues among university students have garnered increasing attention in recent years due to their prevalence and detrimental effects on academic performance, social relationships, and overall quality of life. Understanding the factors influencing mental well-being in this population is essential for the development of effective interventions and

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support systems. The mental wellbeing of students is under pressure, and this is a serious health and societal problem. Recent research has shown that students are a 'very high-risk population' for mental health problems and disorders (Alharbi & Smith, 2018; Baik et al., 2019). Mental wellbeing is more than just the absence of mental illness, but also includes psychological functioning, life satisfaction, and ability to develop and maintain mutually beneficial relationships (Tennant et al., 2007). Increased stress is considered an important cause for lowered mental wellbeing, as persistent stress is associated with an increased risk of mental disorders, a deteriorated quality of life and a decrease in study success (Frajerman et al., 2019; Ribeiro et al., 2018; Saklofske et al., 2012; Shankar & Park, 2016). In the Netherlands, recent studies have shown that over 60% of the students report excessive levels of stress (Dopmeijer, 2021). Perceived stress, self-esteem, and loneliness are three psychological constructs that have been consistently linked to mental health outcomes among university students.

Perceived stress refers to the subjective appraisal of the demands placed on an individual and their ability to cope with these demands (Cohen et al., 1983). High levels of perceived stress have been associated with increased symptoms of anxiety, depression, and other mental health problems (Cohen et al., 2016). Stress is described as the way one deals with expectations and pressure from the environment that can be experienced as threatening or overwhelming by an individual (Lazarus & Folkman, 1986). Perceived stress is the extent to which certain situations are judged to be stressful (Chan & La Greca, 2020). Perceived stress has a strong influence on the level of students' mental wellbeing (He et al., 2018). Evidence is available for an increased perceived stress level of university students in the past years (Larcombe et al., 2016; Stallman, 2010). Research has mainly been conducted among medical education (e.g., medicine, nursing, dentistry and psychology), but similar findings have been made for other educational programs (Stallman, 2010). In addition, perceived stress has been found to strongly correlate with female gender (Farrer et al., 2016), family circumstances (Huda et al., 2021), self-esteem (Arshad et al., 2015).

Self-esteem, on the other hand, reflects an individual's overall evaluation of their self-worth and competence (Rosenberg, 1965). Low self-esteem has been identified as a risk factor for various psychological difficulties, including depression, anxiety, and feelings of inadequacy (Orth et al., 2010). University students may experience fluctuations in self-esteem as they navigate academic challenges, social pressures, and personal identity development. Loneliness, defined as the subjective feeling of social isolation or dissatisfaction with one's social relationships (Peplau & Perlman, 1982), is another important determinant of mental well-being among university students. The transition to university often involves separation from familiar social networks, leading to feelings of loneliness and a sense of disconnection (Matthews et al., 2019). Prolonged experiences of loneliness have been linked to an array of negative psychological outcomes, including depression, anxiety, and decreased self-esteem (Hawkey & Cacioppo, 2010).

Loneliness can lead to deteriorating personal resources, increasing the association of perceived stress and mental wellbeing. The impact of loneliness on mental wellbeing was especially found among international students, due to a lack of support coping and social contacts (Stoliker & Lafreniere, 2015). Even though there is already evidence on the association between perceived stress, self-esteem, loneliness, and mental wellbeing, there is a lack of insight in how all these factors link together. Based on the evidence of underlying factors, a conceptual model has been developed. The conceptual model presents the

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expected relations between underlying stressors, perceived stress, personal characteristics, personal resources and mental wellbeing. The structure of the conceptual model is partly derived from the Job Demands-Resources model designed by Demerouti, Bakker, Nachreiner, and Schaufeli and the Student Wellbeing model designed by Gubbels and Kappe (Demerouti et al., 2001). These models reflect the balance between stressors and personal resources to prevent one from ending up in a burnout or lacking in study success.

While each of these factors—perceived stress, self-esteem, and loneliness—has been individually associated with mental health outcomes, there is a paucity of research examining their combined effects on the mental well-being of university students. Understanding how these factors interact and influence each other is crucial for developing targeted interventions aimed at promoting mental health and resilience in this population. Therefore, the present study aims to investigate the effect of perceived stress, self-esteem, and loneliness on the mental well-being of university students. By employing a comprehensive approach that considers the interplay between these psychological factors, this research seeks to provide insights into the complex dynamics underlying mental health outcomes in the university setting. The findings of this study have the potential to inform the development of evidence-based interventions that address the multifaceted needs of university students and promote their overall well-being.

The present study can be describing wellbeing as a predictor of self-esteem, perceived stress and loneliness among young adult. Young adult is an important developmental stage for understanding the role of perceived stress, loneliness and self-esteem on wellbeing. This study investigated the association between self-esteem, perceived stress, loneliness and wellbeing. The outcome of wellbeing, as well as potential interaction effects in association with life satisfaction. In this study, young adult can know about their problem and also know whose part they can improve. For many reasons particular interest has been placed on undergraduate university student. To begin with first year at university is a time of transition, a sudden change place and organization of study. Additionally, starting university is often connected with leaving home, starting to live on one's own and new adult responsibilities. So, it is common for university student to feel lonely and stressed in life. Because of loneliness and stress, there self-esteem can be low in many aspect of life. This research result can be effective for young adult to understand about their mental health and this project finding can be applied in their personal life.

Research Objective

The objectives of the study were to investigate:

- Whether there is significant difference between male and female student in self-esteem, perceived stress, loneliness and wellbeing.
- Whether self-esteem, perceived stress, loneliness and wellbeing are correlated with one another.
- Whether wellbeing could be predicted by self-esteem, perceived stress and loneliness.

Hypotheses

The specific hypotheses formulated were as follows:

- There would be significant difference between male and female student in self-esteem, perceived stress, loneliness and wellbeing.

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- Self-esteem, perceived stress, loneliness and wellbeing would be associated with one another.
- Wellbeing would be predicted by self-esteem, perceived stress and loneliness.

METHODOLOGY

Sample

The present study consisted of 620 young adults studying at Bangabandhu Sheikh Mujibur Rahman science and Technology University, Gopalganj. Table 1 illustrates the frequency distribution for major demographic variables among the 620 participants. Gender distribution indicates that 46.9% of participants identified as female, while 53.1% identified as male. Regarding educational qualification, the majority (88.9%) reported being graduates, with a smaller proportion (11.1%) indicating post-graduate status. Marital status shows that 14.2% of participants reported being married, while the majority (85.8%) reported being unmarried. In terms of socio-economic status, 6.0% of participants identified as belonging to the higher class, 76.3% to the middle class, and 17.7% to the lower class.

Table 1 Frequency distribution for major demographic variable

Demographic		Frequency (<i>n</i> = 620)	Percentage (%)
Gender	Female	291	46.9
	Male	329	53.1
Educational Qualification	Graduate	551	88.9
	Post-graduate	69	11.1
Marital Status	Married	88	14.2
	Unmarried	532	85.8
Socio-economic Status	Higher Class	37	6.0
	Middle Class	473	76.3
	Lower Class	110	17.7

Instruments

All participants completed three self-report questionnaires along with a demographic form, all translated into Bangla. The measures included:

Mental Health Continuum Short Form (MHF). The Mental Health Continuum Short Form (MHF) is a measurement tool utilized to assess eudaimonic well-being, with its translated Bangla version developed by Uddin, Nahar, and Parvin (2022) based on the adult Mental Health Continuum-Short Form (MHC-SF) initially crafted by Keyes et al. (2008). This 14-item scale is rated by participants on a 6-point Likert scale, ranging from "0" (never) to "5" (every day), capturing the frequency of experiences. The MHF comprises three subscales: emotional well-being (items 1 to 3), social well-being (items 4 to 9), and psychological well-being (items 10 to 14). Sample items within each subscale include inquiries such as, "During the past month, how often did you feel interested in life?" for emotional well-being, "During the past month, how often did you feel that you had something important to contribute to society?" for social well-being, and "During the past month, how often did you feel that you had warm and trusting relationships with others?" for psychological well-being. Psychometric evaluations of the MHF have demonstrated robust reliability, with Cronbach's alphas of .83, .83, and .74 for emotional, social, and psychological well-being respectively (Lamers et al., 2011). In the present study, the Cronbach's alphas for the emotional, social, and psychological well-being subscales were

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.86, .76, and .84 respectively. A comprehensive profile of respondents' mental health is derived by summing their scores across the three subscales. Diagnosis of mental health status is determined based on thresholds: individuals are classified as flourishing if they report experiencing 'every day' or 'almost every day' at least one of the three indicators of hedonic well-being and at least six of the eleven indicators of positive functioning during the past month. Conversely, individuals exhibiting low levels (i.e., 'never' or 'once or twice' during the past month) on at least one measure of hedonic well-being and low levels on at least six measures of positive functioning are identified as languishing. Those who do not fall into either category are categorized as "moderately mentally healthy."

UCLA (University of California, Los Angeles) Loneliness scale. The UCLA (University of California, Los Angeles) Loneliness Scale, developed by Russell, Peplau, and Ferguson (1978), serves as a tool for assessing subjective feelings of loneliness and social isolation. Its translated version-3 (Ahmed, 2019) comprises 20 items, each rated on a scale ranging from 1 (Never) to 4 (Often). This scale, designed as a revised version of both the original UCLA Loneliness and the Revised UCLA Loneliness, incorporates reverse-coded items (1, 5, 6, 9, 10, 15, 16, 19, 20) to mitigate response biases. The scale demonstrates high internal consistency, with a coefficient alpha of .96, indicating strong reliability. Additionally, its test-retest correlation over a two-month period stands at .73, suggesting good temporal stability. Concurrent and preliminary construct validity are supported by correlations with self-reports of current loneliness and related emotional states, as well as by participation in a "loneliness clinic," indicating its relevance and applicability in assessing loneliness experiences.

Perceived Stress Scale. The Perceived Stress Scale (PSS) was initially developed in 1983 by Cohen et al. [9]. The PSS-10 has been translated into Bangla by Islam (Laboratory for the Study of Stress, 2016). The PSS-10 comprises 10 items, each rated on a 5-point Likert scale ranging from 0 (Never) to 4 (Very often), yielding a total score range of 0 to 40. Notably, the scale incorporates reverse-coded items (4, 5, 7, 8). The PSS-10 has been recognized as internally consistent, with normative data on Bangla versions indicating Cronbach's alpha coefficients ranging from .71 to .91 and stable test-retest reliability at $r > .70$ across various populations (see Lee, 2012). Concurrent validity of the PSS-10 has been established through moderate to strong correlations with diverse assessment tools such as measures of depression, anxiety, impact of event, the General Health Questionnaire (GHQ), and life events (Cohen & Williamson, 1988; Lee, 2012).

Self Esteem. Self-esteem, originally developed by Morris Rosenberg in 1956, is known as the Rosenberg Self-Esteem (RSE) scale. The Bangla version of the Self-Esteem scale was adapted by Ilyas and Huque in 2003 to assess feelings of self-worth or self-acceptance among adolescents and adults (Rosenberg, 1965). The scale comprises 10 items, evenly split between 5 positive and 5 negative statements. Participants rate each item on a four-point Likert scale. For positive items, scores range from 0 (Strongly disagree) to 3 (Strongly agree), while negative/reverse items are scored inversely (items 3, 5, 8, 9, 10). The translation reliability of the Bengali version of the self-esteem scale was established with a significant correlation coefficient ($r = .87, p < .0005$), indicating strong translation reliability (Ilyas, 2003). Additionally, the Bengali version demonstrated high internal consistency, as evidenced by a Cronbach's alpha coefficient of .87 (Ilyas, 2003).

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Procedure

Standard data collection procedures were adhered to in the present study. Initially, participants were approached and informed consent was obtained prior to their involvement in the study. A brief explanation of the study's purpose was provided to participants, emphasizing the confidentiality of their responses and their usage solely for research purposes. Additionally, participants were offered further clarification if they encountered any difficulties understanding the survey items. Upon completion of the survey items, participants were asked to provide general demographic information, including age, gender, socioeconomic status, educational qualification, marital status, etc. On average, participants spent approximately 20 minutes completing the task. Upon completion of the task, each respondent received a token of appreciation as thanks for their participation in the study. The survey was administered, and data were collected over a three-day period from all participants.

Data Processing and Analysis

Each participant's responses were scored according to the scoring principles of the Mental Health Continuum Short Form (MHC-SH), Loneliness Scale (LS), Perceived Stress Scale (PSS), and Rosenberg Self-Esteem Scale (SES). The collected data were then entered into the SPSS Version 22 software for analysis. To assess the reliability of the translated measures, appropriate statistical analyses were conducted. For the main analysis, an independent samples t-test was performed to examine differences between male and female participants in self-esteem, loneliness, perceived stress, and mental health continuum scores. Subsequently, Pearson product-moment correlation coefficients were calculated to explore the relationships between self-esteem, loneliness, perceived stress, and mental health continuum scores.

RESULTS

To test the research objectives, the data obtained from the returned surveys were analyzed applying descriptive and inferential statistics and analysis was carried out through SPSS version 25. However, according to the objectives, the findings of the study had been categorized into the following sections. Such as: **Section 1: Frequency distribution** summarized the data and displayed the number of the observations into distinct classes or categories for each distribution shown in table 1. **Section 2:** To determine if female and male students differed in terms of self-esteem, perceived stress, loneliness and wellbeing, an independent sample t test was used. Table 2 displayed the findings. **Section 3: Correlation matrix** among self-esteem, perceived stress, loneliness, and wellbeing was conducted. The results of this section were shown in table 3. **Section 4:** To determine if self-esteem, perceived stress and loneliness predict on wellbeing, multiple regression analysis was done. The results are shown in Table 4.

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Table 2. Independent sample t tests for the significance of the difference between male and female in Self- Esteem, Perceived Stress, Loneliness and wellbeing.

Variables	Male(n=329)		Female(n=291)		t
	Mean	SD	Mean	SD	
Self Esteem	17.93	4.35	16.64	4.32	3.68***
Perceived Stress	18.68	5.55	20.55	6.01	-4.03***
Loneliness	46.23	7.68	48.63	7.28.	-3.98***
Emotional Wellbeing	9.22	3.80	8.39	4.19	2.59**
Social Wellbeing	12.26	5.49	11.78	5.17	1.12
Psychological Wellbeing	16.97	6.30	16.06	5.85	1.85S
Wellbeing	38.46	12.56	36.24	12.34	2.21*

Note. SD= Standard Deviation *** $p < .001$ (two-tailed); ** $p < .01$ (two-tailed); * $p < .05$ (two-tailed)

Table 2 displays the results of independent sample t-tests assessing the significance of differences between male (n = 329) and female (n = 291) participants in self-esteem, perceived stress, loneliness, and well-being measures. For self-esteem, male participants (M = 17.93, SD = 4.35) scored significantly higher than female participants (M = 16.64, SD = 4.32), $t(618) = 3.68$, $p < .001$. Similarly, female participants (M = 20.55, SD = 6.01) reported significantly higher levels of perceived stress compared to male participants (M = 18.68, SD = 5.55), $t(618) = -4.03$, $p < .001$. In terms of loneliness, female participants (M = 48.63, SD = 7.28) scored significantly higher than male participants (M = 46.23, SD = 7.68), $t(618) = -3.98$, $p < .001$. Regarding emotional well-being, male participants (M = 9.22, SD = 3.80) reported significantly higher levels than female participants (M = 8.39, SD = 4.19), $t(618) = 2.59$, $p < .01$. However, no significant differences were found between male and female participants in social well-being, $t(618) = 1.12$, $p > .05$, or psychological well-being, $t(618) = 1.85$, $p > .05$. Finally, for overall well-being, male participants (M = 38.46, SD = 12.56) scored significantly higher than female participants (M = 36.24, SD = 12.34), $t(618) = 2.21$, $p < .05$.

Table 3. Correlation Matrix for the Self Esteem, Perceived Stress, Loneliness, Mental Health Continuum Short Form and its Dimensions

	1	2	3	4	5	6	7
Self Esteem	1	-	-	-			
Perceived Stress	-.442**	1	-	-			
Loneliness	-.476**	.447**	1	-			
Emotional Wellbeing	.393**	-.239**	-.326**	1			
Social Wellbeing	.289**	-.199**	-.263**	.452**	1		
Psychological Wellbeing	.362**	-.236**	-.279**	.447**	.502**	1	
Wellbeing	.426**	-.277**	-.353**	.733**	.819**	.847**	1

**Correlation is significant at the 0.01 level (two tailed)

Table 3 presents the correlation matrix for key variables including Self Esteem, Perceived Stress, Loneliness, Emotional Wellbeing, Social Wellbeing, Psychological Wellbeing, and

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Wellbeing. Pearson correlation coefficients are provided to indicate the strength and direction of relationships between pairs of variables. Self Esteem shows a moderate negative correlation with Perceived Stress (-.442**, $p < .01$) and Loneliness (-.476**, $p < .01$), and a moderate positive correlation with Emotional Wellbeing (.393**, $p < .01$), Social Wellbeing (.289**, $p < .01$), Psychological Wellbeing (.362**, $p < .01$), and Wellbeing (.426**, $p < .01$). Perceived Stress is moderately negatively correlated with Loneliness (.447**, $p < .01$) and moderately positively correlated with Emotional Wellbeing (-.239**, $p < .01$). Loneliness exhibits moderate negative correlations with Emotional Wellbeing (-.326**, $p < .01$), Social Wellbeing (-.263**, $p < .01$), and Psychological Wellbeing (-.279**, $p < .01$), and a moderate positive correlation with Wellbeing (-.353**, $p < .01$). Emotional Wellbeing shows moderate positive correlations with Social Wellbeing (.452**, $p < .01$), Psychological Wellbeing (.447**, $p < .01$), and Wellbeing (.733**, $p < .01$). Social Wellbeing demonstrates moderate positive correlations with Psychological Wellbeing (.502**, $p < .01$) and Wellbeing (.819**, $p < .01$).

Table 4. Multiple regressions of Self Esteem, Perceived Stress and Loneliness on wellbeing

Predictors	Un-standardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	Adjusted R ²	ANOVA for Model Fit
	B	Std. Error	β				
(Constant)	38.033	4.710	-	8.075	.000		
Self Esteem	.902	.121	.316	7.451	.000		
Perceived stress	-.125	.089	-.059	-1.401	.162	.210	55.78**
Loneliness	-.291	.070	-.177	-4.154	.000		

Table 4 presents the results of multiple regression analyses examining the predictors of wellbeing, with Self Esteem, Perceived Stress, and Loneliness entered as predictors. Self Esteem emerges as a significant predictor of wellbeing, with a positive unstandardized coefficient ($B = 0.902$, $p < .001$) and a standardized coefficient ($\beta = 0.316$), indicating that higher levels of Self Esteem are associated with greater wellbeing. Perceived Stress, however, does not significantly predict wellbeing ($B = -0.125$, $p = .162$). Loneliness also emerges as a significant predictor, with a negative unstandardized coefficient ($B = -0.291$, $p < .001$) and a standardized coefficient ($\beta = -0.177$), indicating that higher levels of Loneliness are associated with lower levels of wellbeing. The overall model demonstrates good fit, as indicated by a significant F-value ($F(3, N = \text{sample size}) = 55.78$, $p < .001$) and an adjusted R² of .210, suggesting that approximately 21% of the variance in wellbeing can be accounted for by the predictors included in the model.

DISCUSSION

The present study sought to investigate the effect of perceived stress, self-esteem and loneliness, on mental well-being among university students. **The first hypothesis**, investigate the differences between male and female students in self-esteem, perceived stress, loneliness and wellbeing. The findings of this study provide valuable insights into gender differences in self-esteem, perceived stress, loneliness, and well-being among the participants. The results revealed significant differences between male and female participants across several psychological constructs. Consistent with previous research (Robins et al., 2002), male participants reported higher levels of self-esteem compared to female participants. This disparity may be attributed to societal norms and gender roles that

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often place greater emphasis on self-confidence and assertiveness in males (Kling et al., 1999). Conversely, female participants exhibited higher levels of perceived stress and loneliness, corroborating previous research indicating that women tend to experience greater stress and feelings of social isolation (Dalgard et al., 2006; Mahon et al., 2000). Interestingly, while female participants reported higher levels of perceived stress and loneliness, male participants demonstrated superior emotional well-being. This finding aligns with studies highlighting gender differences in coping strategies, with males often employing more problem-focused coping mechanisms, leading to better emotional regulation (Matud, 2004). The observed gender differences in overall well-being, with male participants reporting higher scores than female participants, are consistent with previous literature (Zeng et al., 2015). However, the magnitude of this difference was relatively small; indicating that while gender may influence specific psychological outcomes, its impact on overall well-being is more nuanced and multifaceted.

The second hypothesis explored the association among self-esteem, perceived stress, loneliness and wellbeing. The correlations presented in Table 3 reveal several important associations among key variables in the study. Notably, Self Esteem demonstrates significant relationships with various aspects of wellbeing, highlighting its importance in mental health outcomes. Consistent with previous research (Robins et al., 2002), higher levels of Self Esteem are associated with greater Emotional Wellbeing, Social Wellbeing, Psychological Wellbeing, and overall Wellbeing. Conversely, Self Esteem shows negative correlations with Perceived Stress and Loneliness, in line with findings by Kling et al. (1999) and Mahon et al. (2000), suggesting that individuals with higher Self Esteem may experience lower levels of stress and feelings of loneliness. Perceived Stress exhibits negative correlations with aspects of wellbeing, consistent with prior research (Matud, 2004), indicating that higher levels of perceived stress are associated with lower levels of Emotional Wellbeing. This aligns with the notion that stress can detrimentally affect emotional health. Additionally, Perceived Stress shows a positive correlation with Loneliness, echoing findings by Zeng et al. (2015), suggesting that individuals who perceive higher levels of stress may also experience greater feelings of loneliness. Loneliness demonstrates negative correlations with Emotional, Social, and Psychological Wellbeing, corroborating previous research (Mahon et al., 2000), which suggests that loneliness is associated with poorer mental health outcomes across multiple domains. Furthermore, Loneliness exhibits a negative correlation with overall Wellbeing, indicating its detrimental impact on individuals' overall quality of life. Emotional Wellbeing displays positive correlations with Social and Psychological Wellbeing, consistent with the literature (Robins et al., 2002), underscoring the interconnectedness of various dimensions of mental health. Social Wellbeing also shows positive correlations with Psychological Wellbeing, echoing findings by Dalgard et al. (2006), highlighting the importance of social relationships in promoting psychological health.

The third hypothesis aimed to determine whether self-esteem, perceived stress, and loneliness would predict wellbeing among students. The results of the multiple regression analysis, as depicted in Table 4, provide valuable insights into the predictors of wellbeing, namely Self Esteem, Perceived Stress, and Loneliness. Consistent with prior research (Robins et al., 2002), Self Esteem emerges as a significant predictor of wellbeing. The positive coefficient ($B = 0.902$, $p < .001$) indicates that individuals with higher levels of Self Esteem tend to report greater levels of wellbeing. This finding underscores the importance of fostering positive self-perceptions and self-worth in promoting overall wellbeing. Loneliness

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emerges as another significant predictor of wellbeing, consistent with previous literature (Mahon et al., 2000). The negative coefficient ($B = -0.291$, $p < .001$) suggests that individuals who report higher levels of loneliness tend to experience lower levels of wellbeing. This underscores the detrimental impact of social isolation and underscores the importance of social connectedness in promoting overall mental health and wellbeing. Overall, the regression model demonstrates good fit, with a significant F-value ($F(3, N = \text{sample size}) = 55.78$, $p < .001$) and an adjusted R^2 of .210. This indicates that approximately 21% of the variance in wellbeing can be explained by the predictors included in the model. While Self Esteem and Loneliness significantly contribute to the prediction of wellbeing, Perceived Stress does not emerge as a significant predictor in this context.

Clinical Implication

The study highlights significant gender differences in self-esteem, perceived stress, loneliness, and overall well-being among university students. Female students reported higher levels of perceived stress and loneliness compared to male students, which may necessitate gender-specific interventions tailored to address the unique needs of each group. For instance, interventions aimed at enhancing coping strategies and social support networks may be particularly beneficial for female students to mitigate stress and feelings of loneliness. The findings underscore the importance of promoting self-esteem as a protective factor against poor mental health outcomes. Interventions focused on enhancing self-esteem may involve cognitive-behavioral techniques, such as cognitive restructuring and positive affirmations, to challenge negative self-perceptions and foster a more positive self-concept. By bolstering self-esteem, students may experience greater resilience and overall well-being. Loneliness emerged as a significant predictor of well-being, highlighting the need for interventions that address social isolation and promote social connectedness among university students. Universities can implement initiatives such as peer support programs, group activities, and community engagement opportunities to facilitate social integration and foster meaningful connections among students. Additionally, mental health services can provide targeted interventions for students experiencing loneliness, such as group therapy or social skills training. Given the complex interplay between perceived stress, self-esteem, loneliness, and mental well-being, universities should offer comprehensive mental health support services that address these multifaceted factors. This may involve integrated approaches that combine counseling services, stress management workshops, and peer support networks to provide holistic support for students' mental health needs. Moreover, raising awareness about mental health issues and reducing stigma surrounding help-seeking behaviors can encourage students to seek support when needed. Creating a positive and inclusive campus environment is essential for promoting students' mental well-being. Universities can foster a culture of acceptance, belonging, and support through policies and initiatives that prioritize mental health, diversity, and inclusivity. By cultivating a supportive campus community where students feel valued and connected, universities can contribute to the overall mental health and academic success of their student body.

Recommendation and Conclusion

In summary, In conclusion, this research report sheds light on the significant impact of perceived stress, self-esteem, and loneliness on the mental well-being of university students. The findings underscore the importance of addressing these psychological factors to promote positive mental health outcomes among students. Gender differences were observed in self-esteem, perceived stress, and loneliness, highlighting the need for tailored interventions to meet the specific needs of male and female students. The study also

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revealed significant correlations among self-esteem, perceived stress, loneliness, and various dimensions of well-being, emphasizing the interconnectedness of these factors. Self-esteem and loneliness emerged as significant predictors of well-being, highlighting their role in shaping students' overall mental health. Overall, the study contributes valuable insights into the complex dynamics underlying mental health outcomes in the university setting and provides a basis for the development of evidence-based interventions to support the well-being of university students.

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Conflict of Interest

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