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The Silence That Wounds: Social Silence, Trauma, and Depression Among Female University Graduates in Khyber Pakhtunkhwa

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Abstract

The transition to graduation represents a critical period for university students, yet for many female students in Khyber Pakhtunkhwa (KPK), Pakistan, this milestone is overshadowed by psychological trauma and silent suffering. Today's academic environments often enforce social silence, the deliberate withholding of voice, opinions, and emotional expression, which exerts a profound impact on the psychological well-being of female students in KPK's Higher Education Institutions. Grounded in minority stress theory and cognitive dissonance theory, this study investigates how social silence fuels depression among female university students during graduation in KPK, highlighting the underlying role of trauma. Utilizing a quantitative cross-sectional design, researchers surveyed female university students from various KPK universities. The findings confirm that social silence directly impairs psychological well-being while simultaneously triggering heightened trauma symptoms, such as intrusion, avoidance, and hyperarousal, which further worsen depression. Trauma acts as a key partial mediator, proving that social silence disrupts mental health through both direct emotional suppression and indirect traumatic strain. Ultimately, these insights emphasize the urgent need for KPK universities to address gendered silencing and trauma-informed mental health support. Protecting female students' mental health and academic performance in KPK requires active strategies to reduce social silence and restore healthy psychological functioning.

Keywords: *social silence, trauma, depression, female university students, graduation, Khyber Pakhtunkhwa, psychological distress*

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Introduction

Voice suppression among the female university students of Khyber Pakhtunkhwa (KPK) is becoming a crucial strategy that helps them cope in educational settings by restraining themselves from speaking to escape adverse outcomes. Self-censorship and voice suppression are not merely communication tactics but also forms of psychological adjustment and emotional work (Morrison & Milliken, 2000; Pinder & Harlos, 2001). From this perspective, social silence can be understood as a process of self-imposed voice restraint and withholding of one's opinions and concerns within the social and educational environment through reduced self-disclosure, emotional suppression, and participation in decision-making (Van Dyne et al., 2003; Morrison & Milliken, 2000). It has been recently shown that chronic voice suppression may be connected to higher anxiety, depression, well-being impairment, and possibly even self-concept changes and identity shifts especially for women and marginalized groups (Gross & John, 2003; Srivastava et al., 2009).

However, the above literature is not entirely one-sided since there are studies indicating that silence might have protective roles when the environment is hostile, implying that the effects of social silence on mental well-being may depend on circumstances, length, and support rather than a uniform effect as suggested above (Pinder & Harlos, 2001).

Social silence is an essential part of the academic life, interactions, and psychological survival of female students in KPK, which means that female university students in the province are big consumers of voice suppression. The exposure has been found to be high in the sample of university students from KPK where female students are characterized by low participation in classes, unwillingness to confront their professors, and fear of speaking out about sexual harassment and discrimination in order to save face in the society (Eddy et al., 2014; Bowles et al., 2007; Niaz, 2003).

According to the findings of systematic review evidence, expressive suppression is associated with mental disorders and psychological dysfunction in young adults, whereas research conducted in universities in Pakistan indicates that higher levels of social silence are related to anxiety, depression, mental tiredness, and psychological distress (Gross & John, 2003; Srivastava et al., 2009). Furthermore, depression is a prevalent condition among student populations in KPK. According to this study, the

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mean PHQ-9 score was 11.42, which is above the clinical threshold for moderate depression, whereas other studies on depression among female university students in KPK have shown the prevalence of depression at 38.2% to 46.7% and correlations with anxiety, stress, and trauma (Khan et al., 2006; Rab et al., 2008).

The KPK setting brings its own set of challenges for female university students. The province of Khyber Pakhtunkhwa is known for having highly entrenched patriarchal traditions, tribal practices, and social customs which severely limit women's mobility, agency, and freedom of expression (Niaz, 2003). The female students in KPK live a precarious existence, being expected to receive education and excel academically while adhering to gender roles that emphasize humility, subservience, and silence. The existing body of research on KPK female university students shows very high incidence of depression, anxiety, and stress among the population, higher than anywhere else in Pakistan or the West (Khan et al., 2006; Rab et al., 2008). The burden of upholding family honor (ghairat), fear of social stigma, and the experience of gender discrimination put the individual in a situation where social silence is a necessity—but one with severe psychological consequences.

This is why the relationship between social silence and depression is theoretically as well as practically important for female students in KPK. Currently, there are several mechanisms through which social silence may have an effect on mental health, including self-suppression, cognitive dissonance, emotional exhaustion, and repetitive thinking or nighttime rumination (Festinger, 1957; Gross & John, 2003; Morrison & Milliken, 2000). Yet another mechanism which may exist in this association is trauma. Self-suppression and voice suppression were associated with trauma symptoms and psychological distress among university students in KPK, while trauma was partially responsible for the relationship between silencing and depression (Herman, 1992; Root, 1992). The results of other studies also indicate that the association between social silence and depression in university students was partially mediated by trauma, where the coefficient varied between 15.2% and 22.4% (Courtois, 2004; Read et al., 2011). However, the majority of the current literature does not deal with the concept of social silence specifically in relation to this association, but only with expressive suppression, harassment, or trauma in general (Morrison & Milliken, 2000).

Literature Review

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Social Silence refers to a descriptive condition related to voice suppression through fear of consequences and not to be considered a clinical condition (Morrison & Milliken, 2000; Pinder & Harlos, 2001). Its main attributes have been outlined as reduced self-expression, suppressed emotions, lack of assertiveness, thin communication, and inability to speak up especially for women who are extensively exposed to patriarchal norms in KPK (Van Dyne et al., 2003; Morrison & Milliken, 2000). It is recommended to be involved in the mechanisms of cognitive dissonance and minority stress hypotheses. Self-surveillance, emotional suppression, and constant identity management appear to take too much psychological resources, therefore, blocking authentic self-expression and emotional expression (Gross & John, 2003; Festinger, 1957). At the same time, dependence on silence as 'a survival strategy' leads to the development of different adaptations including appeasement, avoidance, and prospective self-protection strategies. This suggests that intrinsic voice systems would not be involved in the process because the content can be voiced later on when there is no risk of harmfulness (Pinder & Harlos, 2001; Morrison & Milliken, 2000).

However, the concerns regarding the psychological consequences of excessive social silence have been backed by empirical literature, but the findings are not consistent in terms of different age groups and different types of silencing. Excessive social silencing has been associated with low self-esteem, identity, relationships, and psychological well-being (Gross & John, 2003; Srivastava et al., 2009) in reviews that have been done on youth and young adults in Pakistan. In some reviews, excessive social silencing has been found to be associated with the structural changes in the brain regions associated with emotion regulation and self-processing (Herman, 1992; Root, 1992), while others have highlighted the negative association of increased social silencing with mental health, academic performance, and social relationships of young people and young adults. However, some studies conducted in supportive environments have indicated that the strategic social silence results in reduced interpersonal conflicts and slower emotional exhaustion (Pinder & Harlos, 2001).

Trauma includes emotional reactions to disturbing events, intrusive memories, avoidance, and hyperarousal and is very common among university students in KPK (Herman, 1992; Read et al., 2011). In this literature, the IES-R is the gold standard for measuring trauma with three components and a global score where high scores

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indicate severe trauma symptoms (Weiss & Marmar, 1997). Recent literature indicates that social silence exposure has been consistently associated with poor mental health, especially if chronic, identity-based, and/or occurs before graduation. In the KPK youth review, too much voice suppression has been consistently associated with poor psychological well-being and poor mental health, and some of the included studies have indicated that trauma acts as a mediator between silencing and poor mental health outcomes (Root, 1992). While these meta-analyses of university students found an association between social silence and poorer mental health, they were not as consistent regarding shorter well-being duration, which can be supported by the hypothesis that social silence may impact the quality of mental health more than the quantity of functioning (Morrison & Milliken, 2000).

The possible mediator in the relationship between cognitive consequences of social silence and depression is trauma, which is usually measured by intrusion, avoidance, and hyperarousal (Herman, 1992; Weiss & Marmar, 1997). In both KPK university samples, problem use of silencing or voice suppression and stronger identity management were related to high levels of anxiety, depression, stress, mental exhaustion, and psychological distress in general (Gross & John, 2003; Srivastava et al., 2009; Khan et al., 2006). Furthermore, an extensive review implies that social silence can have positive protective relationships, but only chronic or forced social silence is associated with negative consequences (Pinder & Harlos, 2001). The theoretical connection between social silence and depression through trauma is also consistent with the studies of pre-sleep arousal. Nighttime rumination is associated with elevated pre-sleep arousal and rumination, worry, and cognitive pre-sleep arousal and nighttime rumination independently predicts poor sleep quality (Almeida et al., 2022).

Collectively, the recent literature serves as proof for the theoretical justification of the relationship between social silence and the development of depression and its explanation in terms of trauma for developing this relationship in female university students in KPK. The concept of "social silence" has been well-studied in the context of research related to youth problems as well as problems of problematic silencing and usage rather than general silencing research (Morrison & Milliken, 2000; Pinder

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& Harlos, 2001). In the light of literature review and theoretical analysis, the following hypotheses are proposed:

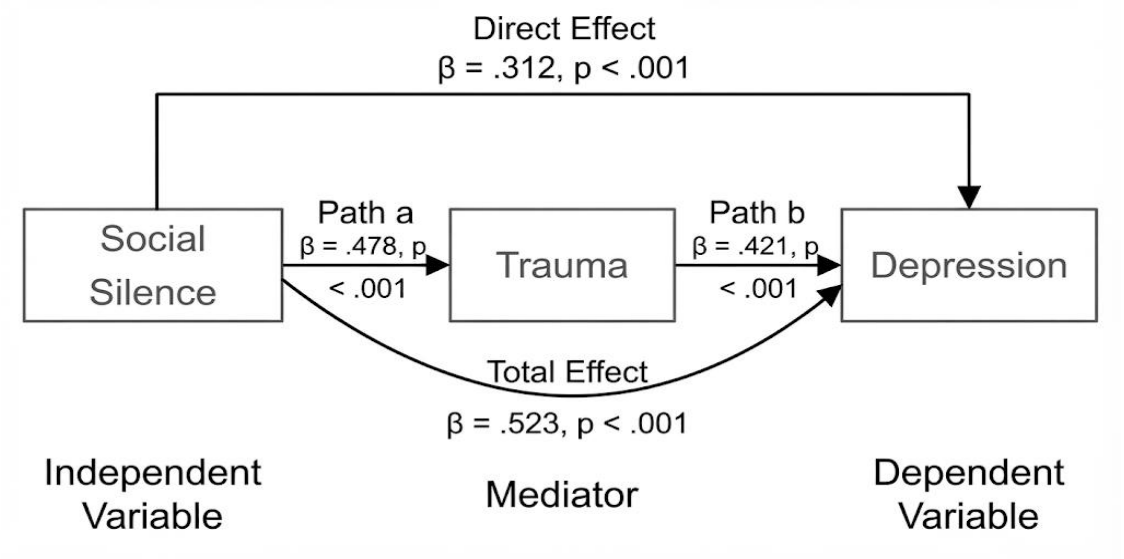
H1: There is a significant positive correlation between social silence and depression among female university students in KPK.

H2: Social silence significantly and positively predicts depression among female university students in KPK.

H3: Social silence is significantly and positively associated with trauma among female university students in KPK.

H4: Trauma is significantly and positively associated with depression among female university students in KPK.

H5: Trauma mediates the relationship between social silence and depression among female university students in KPK.



[Figure 1: Conceptual Framework]

Methods

Research Design

This research adopted the quantitative cross-sectional survey design in studying the relationship between social silence and depression in female university students in Khyber Pakhtunkhwa (KPK) and examining the mediating role of trauma in that relationship. The reason for adopting the cross-sectional design in this study is the nature of the research being undertaken.

Population and Sampling

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This research study involved female students from the universities of Khyber Pakhtunkhwa (KPK) of Pakistan. The population targeted comprised female students who were presently undertaking their last year of study in different universities in KPK whether in the undergraduate or postgraduate level. The Krejcie and Morgan chart shows that in case the number of people in the population is very large and a researcher wishes to use them for research, the trend is that the rate of increase of sample size decreases up to a stage whereby the sample size remains constant at slightly above 380; therefore, the value recommended for a sample size for very large population is 384 (Krejcie & Morgan, 1970). It was right to apply the method of convenience sampling since the research was exploratory and the relationship between variables needed to be established. Participants needed to be current female university students in their final year in KPK, voluntarily willing to participate after giving informed consent and understanding what the study entails; however, female university students suffering from clinical depression and PTSD were excluded. The sample in this study comprised 318 female university students from various KPK universities.

Measures

Social Silence Assessment: The assessment of social silence included 15 items within Social Silence Scale (SSS) by Morrison and Milliken (2000) that include acquiescent, quiescent, and prosocial social silence. A few items included in the assessment included hesitance in expressing true opinions within academic settings, being reluctant to talk about problems owing to the threat of negative consequences, and silence to maintain harmony in relationships. Responses of participants were collected on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), and this tool proved very reliable ($\alpha = .887$) in the provided sample.

For trauma evaluation, the Impact of Event Scale-Revised (IES-R) was used, which is a self-rated scale of subjective distress due to the exposure to traumatic events over the previous 7 days (Weiss & Marmar, 1997). The IES-R scale consists of 22 items and provides three subscales for measuring intrusion, avoidance, and hyperarousal, which are all combined into a single global score (Weiss & Marmar, 1997). The greater the global score, the more severe the trauma symptoms are; in the first study testing its validity, a global score above 24 was able to differentiate between good and

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poor trauma outcomes with the 89.6% sensitivity and 86.5% specificity (Weiss & Marmar, 1997). In the current study, IES-R showed high reliability (α = .912).

Depression was measured using Patient Health Questionnaire-9 (PHQ-9). This is a nine-item self-administered questionnaire consisting of items measuring depression symptoms. Participants were required to rate their level of experience of each of the symptoms over the last two weeks (Kroenke et al., 2001). According to empirical studies, the structure of PHQ-9 is consistent with differentiation of depression severity levels, as well as the general distress construct. Thus, it can be used as a depression measurement tool (Kroenke et al., 2001). As revealed by the initial validation studies, the psychometric properties and factor structure of PHQ-9 were satisfactory (Kroenke et al., 2001). In the current study, the internal consistency reliability of PHQ-9 was high (α = .901).

Data Collection Procedure

The data were collected using an online questionnaire platform. The questionnaire was sent through the university's email accounts and social media platforms specific to KPK universities, and the first page of the questionnaire contained the informed consent form that stated the aim of the research, the confidentiality of the results, the voluntary nature of participation, and the right to withdraw from the research. The process of data collection lasted 8 weeks.

Data Analysis Strategy

The data analyses were conducted via SPSS 26.0. Data analyses were carried out in the following sequence. At Step 1, the process involved data screening and cleaning for testing missing values, outliers, and data entry errors. At Step 2, it involved computing descriptive statistics to examine mean, standard deviation, skewness, and kurtosis of the variables. At Step 3, reliability analysis was done through use of Cronbach's alpha. At Step 4, Pearson product-moment correlation analysis to study relationships among social silence, trauma, and depression. At Step 5, mediation analysis was conducted by using Hayes (2022) PROCESS macro (Model 4). Indirect effect was statistically significant if confidence interval does not contain zero. The significance level was $p < .05$ for all analyses.

Results

Descriptive Statistics and Reliability Analysis

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A total of 318 female university students from various KPK universities made up the participants in this study. The sample was made up of 318 female students (100%). The mean age of participants was 22.8 years (SD = 2.4). Participants were enrolled in various academic fields including social sciences (32.4%), natural sciences (26.7%), engineering (22.3%), and business (18.6%). Participants came from various universities from different regions of KPK which included Peshawar (38.4%), Mardan (21.7%), Kohat (14.5%), Malakand (12.3%), and other districts (13.1%).

Table 1: Descriptive Statistics and Reliability of Study Variables

Variable	N	M	SD	Skewness	Kurtosis	Cronbach's α
Social Silence	318	3.64	0.82	-0.24	-0.48	.887
Trauma	318	2.87	0.91	0.18	-0.72	.912
Depression	318	11.42	4.87	0.32	-0.56	.901

Mean scores for social silence, trauma, and depression were 3.64 (SD = 0.82), 2.87 (SD = 0.91), and 11.42 (SD = 4.87), respectively. All these scores were higher than the mid-point for their respective scales, namely 3.00 for social silence, 1.0 on the 0 to 4 range for trauma, and 10.0 as the clinical cut-off score of PHQ-9 for depression, suggesting moderate and even high occurrence of social silence symptoms, moderate levels of intrusion, avoidance, and hyperarousal as well as moderate depression for these participants. All of the investigated variables showed acceptable values of skewness and kurtosis within acceptable ranges of ±3 and ±10, respectively (Kline, 2023), meaning that all measures followed approximate normal distribution. Also, all reliability coefficients for internal consistency were quite good – Cronbach's alpha of .887 (social silence), .912 (trauma) and .901 (depression) exceeded the criterion of .70(Nunnally & Bernstein, 1994).

Common Method Bias Test

Since data were obtained from a single source by means of a self-report questionnaire, Harman's one factor test was used to identify common method bias (Podsakoff et al., 2003). The outcome of the unrotated principal component analysis indicated that the first factor accounted for 28.94% of the variance, less than the critical level of 50%.

Table 2: Correlation Matrix Among Study Variables

Variable	1	2	3

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1. Social Silence	1		
2. Trauma	.478**	1	
3. Depression	.523**	.561**	1

Note. **p < .01 (two-tailed). N = 318.

Pearson product moment correlation analysis was carried out to investigate the correlation among social silence, trauma, and depression. The findings indicated a significant moderate positive correlation between social silence and depression, r(316) = .523, p < .001, hence validating Hypothesis H1. There was also a significant positive correlation between social silence and trauma, r(316) = .478, p < .001, hence validating Hypothesis H3. There was a significant positive correlation between trauma and depression, r(316) = .561, p < .001, hence validating Hypothesis H4.

Mediation Analysis

Mediation analysis was conducted using Hayes' (2022) PROCESS macro (Model 4) with social silence as the independent variable, trauma as the mediator, and depression as the dependent variable. Bootstrap analysis with 5,000 resamples was used to compute bias-corrected confidence intervals for indirect effects.

Table 3: Mediation Analysis Results

Path	β	SE	t	p	95% CI
Social Silence → Trauma (a)	.478	.051	9.37	< .001	[.378, .578]
Trauma → Depression (b)	.421	.054	7.80	< .001	[.315, .527]
Social Silence → Depression (c*)	.312	.056	5.57	< .001	[.202, .422]
Total Effect (c)	.523	.049	10.67	< .001	[.427, .619]
Indirect Effect (ab)	.187	.040	—	—	[.112, .268]

It was found that social silence significantly predicts trauma (β = .478, p < .001) and trauma significantly predicts depression (β = .421, p < .001). After social silence and trauma have been introduced as independent variables predicting depression, the direct effect of social silence to predict depression remained significant (β = .312, p < .001) despite the coefficient reduction from the total effect (β = .523). The bootstrap analysis revealed that the indirect effect of trauma was significant, and the indirect effect was equal to .187 and 95% confidence interval [.112, .268], which does not include zero. This means that trauma partially mediates the association between social

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silence and depression. The mediation was partial because the direct effect remained significant even with the presence of the mediator.

Table 4: Model Summary for Mediation Analysis

Model	R	R^2	Adjusted R^2	SE of the Estimate	F	p
1 (DV: Trauma)	.478	.229	.226	.801	87.84	< .001
2 (DV: Depression)	.590	.348	.344	3.945	84.12	< .001

Note. N = 318. Model 1 predictors: Social Silence. Model 2 predictors: Social Silence, Trauma.

The mediation model explained 22.9% of the variance in trauma (R^2 = .229, F(1, 316) = 87.84, p < .001) and 34.8% of the variance in depression (R^2 = .348, F(2, 315) = 84.12, p < .001). The inclusion of trauma as a mediator increased the explained variance in depression from 27.4% (direct model) to 34.8% (mediation model), representing a 7.4 percentage point increase.

Discussion

The most significant finding of this research is the identification of trauma as a mediating variable through which social silence and depression are associated in female students of universities in Khyber Pakhtunkhwa (KPK). It has been shown that besides being impacted by cognitive processes such as pre-sleep arousal, cognitive disruption, and task switching, the impact of social silence on depression can be indirect as well as it includes high levels of intrusion, avoidance, and hyperarousal symptoms.

In terms of the theoretical contributions of this study, its findings increase the body of knowledge related to the minority stress theory in that it has been found out that trauma is an important mediator in the relationship between the cognitive impacts of social silence and disruptions in mental health patterns among female students in KPK. According to the theory, trauma occurs due to the concerns about the inability to speak up and lack of control, which cause worries before sleeping.

Furthermore, the existing findings share a lot in common with the existing literature, which identifies the links between heightened voice suppression and harmful silence

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and poor psychological well-being among university students of KPK (Gross & John, 2003; Srivastava et al., 2009; Khan et al., 2006). Transitioning from the idea of simple expressive suppression and social silence as concepts to the idea of social silence as a cognitive concept, this research offers an interesting analysis of the effects of culturally imposed silence on the mental well-being of female university students of KPK (Morrison & Milliken, 2000; Pinder & Harlos, 2001).

This study's specific context of KPK should be considered when evaluating these findings. KPK features a patriarchal social structure, tribal traditions, and conservative gender stereotypes. The female university students of KPK face particular challenges since they have to get an education but adhere to the traditional stereotypes regarding gender roles, modesty, respectability, and social silence, which makes them experience the pressures associated with keeping family honor (ghairat), fear of society, and gender discrimination at the same time. The finding that trauma partially mediates the relationship between silence and depression suggests that the cumulative psychological impact of chronic voice suppression constitutes a form of insidious trauma that manifests as depression.

Implications

This information will assist female university students from KPK in taking practical measures and protecting their psychological health, emotions, and mental well-being. It will be helpful for the students to establish voice boundaries and engage in authentic self-expression regularly. Moreover, students will be able to recover their memories internally in intervals without any device usage and reduce stress.

As for the point of view of the university administration and educators from KPK, the results obtained in the course of the research reveal that intervention measures should be taken. Thus, KPK institutions of education should provide their students with modules on digital literacy, time management, and sleep hygiene and create the appropriate university environment to facilitate purposeful digital disengagement.

From the point of view of psychologists and campus counselors from KPK, one should pay attention to the symptoms of social silence and excessive usage of digital media. Psychologists and other medical specialists are advised to offer not only sleep hygiene recommendations but also a cognitive and behavioral approach for dealing with digital dependency and pre-sleep anxiety. For policymakers and educational

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leaders in KPK, these findings underscore the urgency of developing broader public health and digital wellness campaigns. Policy initiatives should fund and support prevention-oriented educational programs that raise awareness about the systemic cognitive, psychological, and physiological consequences of unhealthy technology reliance, ultimately equipping academic institutions with the resources needed to build healthier digital environments.

Conclusion

The present study examined the relationship between social silence and depression of female university students in Khyber Pakhtunkhwa (KPK). The role of trauma as an intervening variable in the process was investigated. The findings indicate that there exists a positive relationship between social silence and depression, and trauma mediates this relationship partly. By highlighting the role of social silence as a cognitive risk factor and trauma as a significant mediating factor in the process, the paper provides an important contribution to the literature on the cognitive and health consequences of extensive use of digital technology by students. In general, the paper shows that it is essential to address the problem of social silence and trauma in order to ensure cognitive well-being and good psychological and mental health of female university students in KPK.

Conflict of Interest

The authors declare that they have no financial, professional, technological, commercial, institutional, or personal conflicts of interest that could have influenced the content, interpretation, or conclusions presented in this article.

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Data Availability

No new clinical, experimental, or patient-level datasets were generated or analysed during this study. All information discussed in the review was obtained from the published literature and publicly available sources cited in the manuscript. Additional information relating to the review may be obtained from the corresponding author upon reasonable request.

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Informed Consent

Not applicable. No patients or other human participants were recruited, and no identifiable personal or clinical information was collected or analysed for this review.

Use of Generative AI

The authors declare that no generative artificial intelligence tools were used to conduct the literature review, generate the scholarly content, interpret the evidence, or formulate the conclusions presented in this article. The discussion of generative AI, artificial intelligence, and machine-learning technologies in the manuscript relates solely to their applications in healthcare resource optimization and does not constitute their use in preparing the article.

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