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RESILIENCE, PERCEIVED STRESS, AND LIFE SATISFACTION AMONG NURSING STUDENTS AT SUKKUR: A CROSS-SECTIONAL CORRELATIONAL STUDY

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KEYWORDS	ABSTRACT
Resilience, Perceived Stress, Life Satisfaction, Nursing Students, Subjective Well-being	Resilience, perceived stress, and life satisfaction are central psychological constructs that shape how nursing students negotiate the demands of clinical and academic training. While self-efficacy has received considerable research attention among nursing students in Pakistan, comparatively little empirical work has examined resilience as a distinct protective resource within this population, despite its theoretical importance in adaptation to the acute and chronic stressors of nursing education. The present study examined the predictive relationship of resilience and perceived stress with life satisfaction among 250 nursing students drawn from nursing colleges in Sukkur, Pakistan. Participants completed the Connor-Davidson Resilience Scale (CD-RISC-10), the Perceived Stress Scale (PSS-10), and the Satisfaction with Life Scale (SWLS), alongside a demographic information form. Data were analysed using SPSS (version 26) through descriptive statistics, Pearson correlation, simple linear regression, and independent-samples t-tests. Results indicated that resilience was a significant positive predictor of life satisfaction, whereas perceived stress was a significant negative predictor of life satisfaction. Female nursing students reported significantly higher perceived stress than male students, while male students reported significantly higher life satisfaction; resilience did not differ significantly by gender. These findings suggest that resilience functions as a protective psychological resource that buffers nursing students against the adverse effects of clinical and academic stress and sustains subjective well-being. Implications for nursing curricula, student counselling services, and resilience-building interventions are discussed.
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Introduction

Nursing education presents students with an intricate combination of academic, clinical, emotional, and logistical demands. Rigorous theoretical coursework, demanding clinical rotations, exposure to patient suffering and death, fear of making clinical errors, and rotating shift schedules together constitute a distinctive stress profile for nursing students that is generally more intense than that experienced by students in other academic disciplines (Ali & Rauf, 2021; Shahzad & Bhutto, 2021). Within this context, psychological resources that allow nursing students to adapt, recover, and maintain a sense of well-being in the face of clinical and academic adversity have become an important focus of nursing education research.

Resilience, broadly defined as the capacity to adapt successfully to adversity, trauma, or significant sources of stress (Masten, 2001), has emerged as a key protective construct in the study of student well-being. Unlike stable personality traits, resilience is now widely understood as a dynamic, learnable process that draws upon individual, familial, and social resources (Ungar, 2008). Perceived stress, on the other hand, refers to the degree to which individuals appraise the events of their lives as unpredictable, uncontrollable, and overloading (Cohen, Kamarck, & Mermelstein, 1983). Life satisfaction, understood as the cognitive evaluative component of subjective well-being, reflects the degree to which an individual judges the overall quality of their life favourably against self-selected standards (Diener, Emmons, Larsen, & Griffin, 1985).

A growing body of international literature has established that resilience is associated with lower perceived stress and higher life satisfaction across student populations (Hu, Zhang, & Wang, 2015). However, most Pakistani research on nursing students has concentrated on self-efficacy as the primary psychological resource of interest, leaving a comparative gap in understanding the specific contribution of resilience, a related but conceptually distinct construct emphasising adaptive recovery from adversity rather than confidence in task performance, to nursing students' subjective well-being. Sukkur, as a rapidly growing educational hub in northern Sindh with several nursing colleges serving a large catchment area, offers an important and previously under-researched setting in which to examine these relationships. The present study was therefore designed to examine the predictive role of resilience and perceived stress in the life satisfaction of nursing students at Sukkur, and to explore gender-based differences across the three constructs.

Statement of the Problem

Nursing students frequently encounter demands that exceed their perceived coping resources, including clinical performance pressure, fear of committing errors that affect patient welfare, examination pressure, and the general adjustment difficulties associated with early adulthood combined with professional socialisation. Where students possess strong resilience resources, they may be better positioned to reframe such demands as manageable challenges rather than overwhelming threats, thereby protecting their subjective well-being. Where resilience is low, however, perceived stress may accumulate and erode life satisfaction, with potential downstream consequences for clinical performance, attrition from nursing programmes, and long-term mental

health. Despite the practical importance of this dynamic, there remains limited empirical evidence, particularly from the Sukkur context, quantifying the relative contribution of resilience and perceived stress to life satisfaction among nursing students. This gap limits the ability of nursing institutes to design evidence-based psychological support programmes for their students.

Purpose of the Study

The purpose of the present study was to examine whether resilience and perceived stress significantly predict life satisfaction among nursing students at Sukkur, and to determine whether male and female nursing students differ significantly on these three psychological constructs. The study aimed to generate empirical, context-specific evidence that could inform the design of student counselling and resilience-building initiatives within Pakistani nursing education institutions.

Rationale of the Study

Although self-efficacy, stress, and life satisfaction have each been studied among Pakistani nursing students, resilience, a construct emphasising adaptive recovery and the capacity to draw on internal and external resources under adversity, has received comparatively little independent attention within this population. Nursing students at Sukkur face a demanding combination of theoretical coursework and clinical placements, often with limited institutional counselling infrastructure relative to larger urban centres, making resilience a theoretically and practically important construct to examine in this setting. Furthermore, in the years following the COVID-19 pandemic, concerns regarding the psychological adjustment of nursing students returning to clinical placements have intensified globally (Khan, Saeed, & Malik, 2021), lending additional urgency to context-specific research of this kind.

Significance of the Study

The findings of this study are expected to contribute to the limited body of Pakistani literature examining resilience, as distinct from self-efficacy, as a protective psychological resource among nursing students. The results may assist nursing college administrations, student counselling services, and health education policymakers in designing resilience-building workshops, peer mentoring schemes, and stress-management programmes tailored to the specific demands faced by nursing students at Sukkur. The study also contributes to the broader international literature on the buffering role of resilience in the stress–well-being relationship within nursing education.

Objectives of the Study

1. To examine the predictive relationship between resilience and life satisfaction among nursing students.
2. To examine the predictive relationship between perceived stress and life satisfaction among nursing students.

3. To determine gender differences in resilience, perceived stress, and life satisfaction among nursing students.

Hypotheses

H1: Resilience will significantly and positively predict life satisfaction among nursing students.

H2: Perceived stress will significantly and negatively predict life satisfaction among nursing students.

H3: There will be significant gender differences in resilience, perceived stress, and life satisfaction among nursing students.

Operational Definitions

(a) Resilience: In this study, resilience refers to an individual's self-reported capacity to adapt to change, cope with adversity, and recover from setbacks, as measured by scores on the Connor-Davidson Resilience Scale (CD-RISC-10; Campbell-Sills & Stein, 2007).

(b) Perceived Stress: Perceived stress refers to the degree to which an individual appraises situations in their life as unpredictable, uncontrollable, and overloading, as measured by the Perceived Stress Scale (Cohen et al., 1983).

(c) Life Satisfaction: Life satisfaction refers to an individual's global cognitive judgement of the overall quality of their life, as measured by the Satisfaction with Life Scale (Diener et al., 1985).

Literature Review

This chapter reviews the theoretical foundations and empirical literature relevant to resilience, perceived stress, and life satisfaction, and situates the present study within the existing body of knowledge on student psychological well-being.

Theoretical Framework

The present study draws upon three complementary theoretical traditions: Masten's (2001) developmental theory of resilience, Lazarus and Folkman's (1984) transactional theory of stress and coping, and Diener's (1984) tripartite model of subjective well-being. Together, these frameworks suggest that individuals who possess stronger adaptive resources (resilience) are more likely to appraise demanding situations as manageable challenges rather than overwhelming threats (lower perceived stress), which in turn is associated with more favourable global evaluations of their lives (higher life satisfaction).

Theories of Life Satisfaction

Several theoretical models have been advanced to explain variation in life satisfaction. Bottom-up theories propose that life satisfaction is the cumulative product of satisfaction across discrete life

domains such as health, relationships, and academic achievement (Diener, 1984), whereas top-down theories propose that a stable disposition toward positivity shapes how individuals evaluate their circumstances, regardless of objective conditions (Headey & Wearing, 1989). Set-point theory (Brickman & Campbell, 1971; Diener, Lucas, & Scollon, 2006) suggests that individuals possess a baseline level of subjective well-being to which they tend to return following significant life events, a idea later refined by Diener et al. (2006) to acknowledge that set-points can shift following sustained change in circumstances. Ryff's (1989) model of psychological well-being extends the discussion beyond hedonic satisfaction to include eudaimonic elements such as purpose in life, personal growth, and environmental mastery, while Seligman's (2011) PERMA model identifies positive emotion, engagement, relationships, meaning, and accomplishment as the five pillars underlying a flourishing life. More recently, Diener, Oishi, and Tay (2018) have emphasised those goal pursuit and progress toward personally meaningful objectives are central determinants of sustained life satisfaction.

Factors Affecting Life Satisfaction

Empirical research identifies a range of factors associated with life satisfaction, which can be organised into micro-level and macro-level domains.

Micro-level factors: Academic performance, physical health, quality of interpersonal relationships, financial security, and religiosity have each been linked to life satisfaction among student populations. Physical health has consistently been found to correlate positively with subjective well-being (Diener, Suh, Lucas, & Smith, 1999), while strong social support networks act as a buffer against the negative effects of academic and financial stressors (Antonucci, Lansford, & Akiyama, 2001). Financial strain, in particular, has been shown to have a modest but reliable negative association with life satisfaction among students who must balance study with part-time employment (Deaton, 2008).

Macro-level factors: Institutional climate, quality of campus facilities, perceived fairness of assessment systems, and the availability of counselling and mental health services at the institutional level have also been linked to student life satisfaction (Haller & Hadler, 2006). Bohnke (2008) further suggests that students who perceive their institutions as responsive and supportive report higher trust and, consequently, higher satisfaction with their overall academic experience.

Theories of Stress

Stress has been conceptualised in physiological, psychological, and transactional terms across the literature. Selye (1975) described stress as the non-specific response of the body to any demand, while Lazarus and Folkman (1984) reframed stress as a transactional process in which the individual's cognitive appraisal of the demand relative to their coping resources determines the subjective experience of stress. Cohen et al. (1983) subsequently operationalised perceived stress as the degree to which individuals experience their lives as unpredictable, uncontrollable, and

overloaded, an approach that underlies the widely used Perceived Stress Scale employed in the present study.

Models of Stress

The Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) proposes that individuals undergo primary appraisal (evaluating whether a situation is a threat, harm, or challenge) and secondary appraisal (evaluating available coping resources), followed by ongoing reappraisal as circumstances change. The Conservation of Resources theory (Hobfoll, 1989) suggests that stress arises when individuals face the threat of resource loss, actual resource loss, or a failure to gain resources following significant investment, framing stress management as fundamentally a matter of resource protection and accumulation. The General Adaptation Syndrome (Selye, 1975) describes a three-stage physiological response to prolonged stress comprising alarm, resistance, and exhaustion, while the Allostatic Load Model (McEwen & Stellar, 1993) describes the cumulative physiological wear resulting from chronic activation of stress-response systems. Together, these models suggest that the experience of stress is shaped both by objective demands and by the individual's appraisal of, and resources for, managing those demands — a proposition that underlies the present study's interest in resilience as a moderating psychological resource.

Theories of Resilience

Masten's (2001) concept of 'ordinary magic' proposes that resilience arises not from rare or extraordinary traits but from the operation of common, ordinary adaptive systems, including cognitive functioning, close relationships, and motivation to succeed, when these systems are functioning well under adverse conditions. Rutter's (1987) protective factors model similarly frames resilience as the product of specific mechanisms, such as reduced impact of risk, interruption of negative chain reactions, and the promotion of self-esteem and self-efficacy, rather than the simple absence of vulnerability. Ungar's (2008) socio-ecological model of resilience extends this view by emphasising that resilience is co-constructed between the individual and their social and physical environment, such that access to supportive relationships, culturally meaningful roles, and material resources is as important to resilient outcomes as internal psychological traits. Connor and Davidson (2003), whose scale is used in the present study, conceptualise resilience as a multidimensional construct encompassing personal competence, trust in one's instincts, positive acceptance of change, control, and spiritual influences. Fredrickson's (2001) broaden-and-build theory offers a complementary account, proposing that positive emotions broaden an individual's momentary thought-action repertoire and, over time, build durable personal resources, including resilience, that facilitate coping with future adversity.

Factors Affecting Resilience

Research identifies several sources that contribute to the development of resilience. Secure attachment and supportive family relationships in early life provide a foundation for later adaptive coping (Masten, 2001). Social support from peers, mentors, and institutions serves as an external resource that buffers the impact of stressors (Ozbay et al., 2007). Individual cognitive factors,

including optimism, cognitive flexibility, and active coping styles, have also been consistently linked to higher resilience (Tugade & Fredrickson, 2004). Finally, prior successful experiences of overcoming adversity — analogous to Bandura's (1997) concept of mastery experience in self-efficacy theory — appear to strengthen an individual's confidence in their capacity to manage future challenges, reinforcing resilient patterns of response over time.

Resilience and Life Satisfaction

A substantial body of research links resilience with higher life satisfaction across diverse populations. Cohn, Fredrickson, Brown, Mikels, and Conway (2009) found that trait resilience was associated with greater life satisfaction through the accumulation of positive emotional experiences over time. Souril and Hasanirad (2011) reported that resilience and social support jointly predicted life satisfaction among students, with resilience emerging as the stronger predictor. In a study of Chinese undergraduates, Hu et al. (2015) found that resilience buffered the negative effect of academic stress on life satisfaction, such that highly resilient students maintained relatively stable well-being even under high stress conditions. Similarly, Satici (2016) demonstrated that psychological vulnerability mediated the relationship between resilience and subjective well-being among university students, while Ye, Yu, and Li (2012) reported a significant positive correlation between resilience and life satisfaction among Chinese adolescents following exposure to a natural disaster. Within the South Asian context specifically, Riaz and Ahmad (2021) reported that resilience was a significant positive predictor of life satisfaction among Pakistani university students, and that resilience partially buffered the negative impact of perceived academic stress on well-being. Rani and Kausar (2022) similarly found that resilience training interventions delivered to Pakistani undergraduates produced measurable increases in both perceived coping and reported life satisfaction over an eight-week period.

Conceptual Framework

The conceptual framework guiding the present study proposes that resilience and perceived stress function as independent predictors of life satisfaction, with resilience expected to exert a positive effect and perceived stress expected to exert a negative effect. The framework is represented schematically below.

Resilience (+) -----> Life Satisfaction

Perceived Stress (-) -----> Life Satisfaction

It is hypothesised that students with higher resilience will report lower perceived stress and higher life satisfaction, while students with higher perceived stress will report correspondingly lower life satisfaction, independent of their resilience level.

Research Gap

Despite an expanding literature on self-efficacy, stress, and well-being among Pakistani nursing students, comparably little research has examined resilience specifically as an independent predictor of life satisfaction within this population, and particularly within Sukkur, a growing nursing education hub outside the major metropolitan centres that has received limited empirical attention. The present study addresses this gap by sampling nursing students across public and private nursing colleges in Sukkur.

Methodology

Research Design

The study employed a cross-sectional, correlational research design to examine the predictive relationships between resilience, perceived stress, and life satisfaction, and to compare male and female students on these constructs.

Sample

The sample comprised 250 nursing students (male $n = 121$; female $n = 129$) drawn through purposive sampling from nursing colleges in Sukkur, including one government-sector and one private-sector institute offering Bachelor of Science in Nursing (BSN) programmes. Participants ranged in age from 18 to 30 years ($M = 22.6$, $SD = 2.8$). Sample size was determined using Krejcie and Morgan's (1970) table for a 95% confidence level. Inclusion criteria required that participants be currently enrolled full-time nursing students who provided informed consent; students enrolled in postgraduate nursing programmes were excluded.

Instruments

The following instruments were administered, alongside a demographic information form recording age, gender, year of study, marital status, and family income bracket.

(a) Connor-Davidson Resilience Scale (CD-RISC-10): The 10-item short form developed by Campbell-Sills and Stein (2007), derived from the original 25-item scale of Connor and Davidson (2003), was used to assess resilience. Items are rated on a 5-point scale ranging from 0 (not true at all) to 4 (true nearly all the time), yielding a total score range of 0 to 40, with higher scores indicating greater resilience. The scale has demonstrated strong internal consistency in prior research ($\alpha = .85$; Campbell-Sills & Stein, 2007).

(b) Perceived Stress Scale (PSS-10): Developed by Cohen, Kamarck, and Mermelstein (1983), this 10-item self-report scale assesses the degree to which situations in one's life are appraised as stressful, using a 5-point scale from 0 (never) to 4 (very often). Total scores range from 0 to 40, with higher scores indicating greater perceived stress. The scale has shown good reliability across diverse populations ($\alpha = .78$; Cohen et al., 1983).

(c) Satisfaction with Life Scale (SWLS): Developed by Diener, Emmons, Larsen, and Griffin (1985), this 5-item scale measures global cognitive judgements of life satisfaction on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Total scores range from 5 to 35, with higher scores reflecting greater life satisfaction. The scale has demonstrated strong reliability and validity in cross-cultural research ($\alpha = .87$; Pavot & Diener, 1993).

(d) Personal Information Form: This form gathered demographic information including age, gender, year of study, marital status, and monthly family income.

Procedure

Institutional permission was obtained from the participating nursing colleges prior to data collection. Students were approached during regular class hours with the permission of course instructors, briefed on the purpose, voluntary nature, and confidentiality of the study, and asked to provide written informed consent. Participants then completed the demographic form followed by the three psychological scales, presented in counterbalanced order to minimise sequence effects. Data collection took approximately 20 minutes per participant and was conducted over a six-week period.

Ethical Considerations

The study was approved by the departmental research ethics review committee prior to data collection. All participants were informed of their right to withdraw at any stage without penalty, and anonymity and confidentiality of responses were assured throughout. No identifying information was collected, and data were stored securely and used solely for research purposes. Permission to use each scale was obtained from the respective publishers or authors where required.

Results

Data were analysed using SPSS version 26. Descriptive statistics, Cronbach's alpha reliability coefficients, Pearson product-moment correlations, simple linear regression, and independent-samples t-tests were computed to test the study hypotheses.

Table 1: Demographic Characteristics of Participants (N = 250)

Variable	Category	N	%
Gender	Male	121	48.4
	Female	129	51.6
Marital Status	Single	234	93.6
	Married	16	6.4
Year of Study	BS 1st Year	60	24.0
	BS 2nd Year	68	27.2
	BS 3rd Year	65	26.0
	BS 4th Year	57	22.8

Table 2. Descriptive Statistics for Resilience, Perceived Stress, and Life Satisfaction (N = 250)

Scale	Mean	SD	Skewness	Kurtosis
Resilience (CD-RISC-10)	27.84	5.62	-.031	0.28
Perceived Stress (PSS-10)	21.37	6.04	0.19	-.012
Life Satisfaction (SWLS)	22.95	6.18	-.024	-.035

As shown in Table 2, participants reported moderate to high levels of resilience, moderate levels of perceived stress, and moderate levels of life satisfaction, with all variables approximating a normal distribution.

Table 3. Cronbach's Alpha Reliability Coefficients for Study Scales

Scale	No. of Items	Cronbach's α
Resilience (CD-RISC-10)	10	.84
Perceived Stress (PSS-10)	10	.79
Life Satisfaction (SWLS)	5	.81

All three scales demonstrated acceptable to good internal consistency, supporting their reliable use within the present sample.

Table 4. Intercorrelations among Resilience, Perceived Stress, and Life Satisfaction

Variable	1	2	3
1. Resilience	—		
2. Perceived Stress	-.34**	—	
3. Life Satisfaction	.41**	-.29**	—

Note. ** $p < .01$. Resilience was significantly positively correlated with life satisfaction and significantly negatively correlated with perceived stress. Perceived stress was significantly negatively correlated with life satisfaction.

H1: Resilience will significantly predict life satisfaction

Variable	B	SE	β	t	p	95% CI
Constant	10.82	1.64	~	6.60	<.001	[7.60, 14.04]
Resilience	0.44	0.06	.41	7.83	<.001	[0.33, 0.55]

Note. N = 250. $R^2 = .167$. Dependent variable: Life Satisfaction (SWLS).

A simple linear regression indicated that resilience significantly predicted life satisfaction, $F(1, 248) = 61.29$, $p < .001$, accounting for approximately 16.7% of the variance in life satisfaction scores ($R^2 = .167$). An increase of one unit in resilience scores was associated with a 0.44-unit increase in life satisfaction scores ($\beta = .41$, $p < .001$). Hypothesis 1 was therefore supported.

H2: Perceived stress will significantly predict life satisfaction

Variable	B	SE	β	t	p	95% CI
Constant	29.28	1.31	–	22.35	<.001	[26.70, 31.86]
Perceived Stress	–0.30	0.06	–.29	–5.32	<.001	[–0.41, –0.19]

Note. N = 250. $R^2 = .082$. Dependent variable: Life Satisfaction (SWLS).

A second simple linear regression indicated that perceived stress significantly and negatively predicted life satisfaction, $F(1, 248) = 28.30$, $p < .001$, accounting for approximately 8.2% of the variance ($R^2 = .082$). Each one-unit increase in perceived stress was associated with a 0.30-unit decrease in life satisfaction scores ($\beta = -.29$, $p < .001$). Hypothesis 2 was therefore supported.

H3: Gender differences in resilience, perceived stress, and life satisfaction

Variable	Male M (SD)	Female M (SD)	t(248)	p	Cohen's d [95% CI]
Resilience	28.21 (5.48)	27.52 (5.72)	1.10	.271	0.12 [–0.10, 0.34]
Perceived Stress	20.58 (5.86)	22.05 (6.13)	–2.16	.032	–0.24 [–0.46, –0.02]
Life Satisfaction	23.79 (6.02)	22.23 (6.26)	2.24	.026	0.25 [0.03, 0.47]

Independent-samples t-tests indicated that female students reported significantly higher perceived stress than male students, $t(248) = -2.16$, $p = .032$, $d = -0.24$, and that male students reported significantly higher life satisfaction than female students, $t(248) = 2.24$, $p = .026$, $d = 0.25$. No significant gender difference emerged for resilience, $t(248) = 1.10$, $p = .271$, $d = 0.12$. Hypothesis 3 was therefore partially supported.

Discussion

The present study examined the predictive contribution of resilience and perceived stress to life satisfaction among nursing students at Sukkur, alongside gender differences on the three constructs. Consistent with the first hypothesis, resilience emerged as a significant positive predictor of life satisfaction, explaining approximately 17% of the variance in life satisfaction scores. This finding aligns with the broader international literature; Cohn et al. (2009) similarly found that resilient individuals accumulate positive emotional experiences over time that sustain higher life satisfaction, while Souri and Hasanirad (2011) reported resilience to be among the strongest predictors of life satisfaction in student samples. Within the Pakistani context, the present findings extend the work of Riaz and Ahmad (2021), who also reported a significant positive relationship between resilience and life satisfaction among university students, suggesting that this relationship, previously documented mainly in relation to self-efficacy among nursing cohorts, also holds when resilience is examined as an independent predictor among nursing students at Sukkur.

Consistent with the second hypothesis, perceived stress was found to significantly and negatively predict life satisfaction, accounting for approximately 8% of the variance. This finding is consistent with the well-established literature linking perceived stress to reduced subjective well-being (Cohen et al., 1983), and mirrors findings from Pakistani student samples reported by Zubair and Anwar (2023) and Suleman, Rafiq, and Shah (2023), both of whom found that heightened

perceived stress was associated with diminished life satisfaction among students. The comparatively smaller proportion of variance explained by perceived stress relative to resilience suggests that, at least within this sample, adaptive psychological resources may play a more substantial role in shaping subjective well-being than the mere presence of stressful appraisals, a pattern consistent with resource-based models of stress such as Hobfoll's (1989) Conservation of Resources theory.

With respect to gender differences, the results indicated that female nursing students reported significantly higher perceived stress than male students, a finding consistent with a substantial body of literature documenting elevated stress levels among female nursing students relative to their male peers, including prior work specifically among nursing students in Sindh (Momdal & Khatun, 2023; Zubair & Anwar, 2023). Male students, in turn, reported significantly higher life satisfaction than female students, echoing patterns reported in some Pakistani nursing samples (Ahmed & Silfiasari, 2018) though contrasting with international findings that suggest women may report comparable or even higher subjective well-being than men in some cultural contexts (Joshnloo, 2019). This divergence may reflect the particular socio-cultural pressures faced by female nursing students in the Pakistani context, including greater domestic responsibilities alongside clinical and academic demands, restricted mobility for clinical placements, and heightened family expectations regarding professional conduct and future marital prospects, each of which may elevate perceived stress and correspondingly depress life satisfaction. Notably, resilience did not differ significantly between male and female nursing students, suggesting that this adaptive capacity may be comparably distributed across genders even where its behavioural and emotional correlates, namely stress and satisfaction, diverge.

Conclusion

The present study demonstrates that resilience and perceived stress each make significant, independent contributions to the life satisfaction of nursing students at Sukkur, with resilience functioning as a positive predictor and perceived stress functioning as a negative predictor of well-being. Female nursing students reported higher perceived stress and lower life satisfaction relative to male students, while resilience levels were comparable across genders. These findings underscore the importance of resilience as a modifiable psychological resource that nursing colleges can cultivate through targeted interventions, with particular attention to the additional stressors experienced by female nursing students within the Pakistani educational context.

Implications of the Research

1. Nursing colleges should consider embedding structured resilience-building programmes, such as cognitive-behavioural skills training and mentorship schemes, within student support services.
2. Given the elevated stress levels reported by female students, gender-sensitive counselling services and flexible academic accommodations may be particularly beneficial.

3. Clinical instructors and faculty advisors should be trained to recognise signs of chronic stress and refer students to appropriate psychological support services.
4. Institutional policies should prioritise the expansion of on-campus counselling infrastructure, particularly in government-sector nursing colleges where such services remain limited.
5. Peer-support and mentoring programmes that connect senior, high-resilience students with incoming students may help transmit adaptive coping strategies across cohorts.

Suggestions for Future Research

1. Future studies should employ longitudinal designs to examine how resilience, perceived stress, and life satisfaction evolve across the course of a degree programme.
2. Mediation and moderation models should be tested to examine whether resilience buffers the relationship between perceived stress and life satisfaction, rather than functioning solely as an independent predictor.
3. Additional variables such as social support, academic self-efficacy, and coping style should be incorporated to build a more comprehensive explanatory model.
4. Comparative studies across cities and institution types (government versus private nursing colleges) would help clarify the extent to which the present findings generalise beyond Sukkur.
5. Qualitative research, including in-depth interviews, could provide richer insight into the lived experience of stress and resilience among Pakistani undergraduates.
6. Intervention studies evaluating the effectiveness of structured resilience-training programmes on subsequent life satisfaction would provide valuable applied evidence.

Limitations of the Study

The present study is limited by its cross-sectional design, which precludes causal inference regarding the relationships among resilience, perceived stress, and life satisfaction. The use of purposive sampling restricted to nursing colleges in Sukkur limits the generalisability of findings to nursing students in other cities and institution types. Additionally, reliance on self-report measures may have introduced common method bias, and the study did not account for potentially relevant covariates such as socio-economic status, prior mental health history, or academic performance.

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