

Stress Tolerance and Psychological Well-Being among Nurses in Thiruvananthapuram: A Cross-Sectional Study

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Abstract

Nursing is an occupation in which clinical responsibility, emotional demands, irregular work schedules and continuous interaction with patients can create sustained psychological pressure. The ability to remain functional under such pressure may be reflected in stress tolerance, while psychological well-being represents a broader pattern of positive functioning. The present study examined stress tolerance and psychological well-being among nurses working in hospitals in Thiruvananthapuram district and assessed whether these variables differed according to gender, age and work experience. A descriptive cross-sectional design was used with 100 nursing professionals between 21 and 50 years of age. The sample comprised 50 male and 50 female nurses, selected through purposive sampling, with more than one year of professional experience. Data were collected using a Personal Data Sheet, Ryff's Psychological Well-Being Scale and the Stress Tolerance Scale developed by Resmi and Sananda Raj. Descriptive statistics, Pearson's product-moment correlation, independent-samples t-test and one-way analysis of variance were used for analysis.

The mean psychological well-being score was 165.18 (SD = 13.51), while the mean stress-tolerance score was 55.60 (SD = 7.51), both interpreted as moderate in the original study. Stress tolerance was positively associated with psychological well-being, $r = .423$, $p < .001$. Male nurses recorded higher mean psychological well-being and stress tolerance than female nurses, with significant differences for both measures. Age and work experience were also associated with significant differences in both outcomes, with the 41–50-year group and the 10+ years of experience group showing the highest mean scores. The findings indicate that stress tolerance is an important correlate of positive psychological functioning among nurses, while also pointing to the role of career stage and workplace context. The results should be interpreted as associative rather than causal because of the cross-sectional design.

Keywords: Stress tolerance, psychological well-being, nurses, occupational stress, nursing professionals, gender, work experience, Thiruvananthapuram

1. Introduction

Nursing is a core component of the healthcare system and is closely connected with the quality, continuity and safety of patient care. The work of a nurse involves much more than the technical performance of clinical procedures. Nurses observe changes in patients, communicate with families,

coordinate with other professionals, respond to emergencies, document care and provide emotional reassurance at moments when patients may be frightened, dependent or uncertain. These responsibilities require sustained attention and interpersonal involvement, often under conditions in which time and resources are limited.

The professional environment of nursing can contain several simultaneous sources of pressure. Long or irregular duty hours, rotating shifts, workload, staff shortages, responsibility for critically ill patients, difficult communication and exposure to suffering can create a demanding work situation. The stress experienced in such circumstances may not always be visible in the form of a diagnosed mental disorder. It may instead appear as fatigue, irritability, reduced motivation, sleep disturbance, emotional exhaustion or difficulty maintaining concentration. For this reason, the psychological functioning of nurses needs to be examined beyond the presence or absence of clinical symptoms.

Occupational stress is generally understood as a response that develops when work demands are perceived to exceed, or seriously challenge, an individual's available resources. The experience is influenced by the nature of the work as well as by appraisal, coping, perceived control and available support. In nursing, the same clinical situation may not produce the same psychological response in every employee because professional experience, confidence, coping style and social resources can differ considerably.

Stress is not necessarily harmful in every circumstance. Short-term activation can support alertness and action, particularly when a nurse must respond rapidly to a clinical problem. The concern arises when demanding conditions are prolonged and recovery is inadequate. Repeated exposure without sufficient recovery may gradually reduce emotional and cognitive resources, increasing vulnerability to burnout and other adverse outcomes. This distinction makes it useful to study not only stress exposure but also the individual's capacity to tolerate stressful experiences.

Stress tolerance in the present study refers to the ability to withstand stress without becoming seriously impaired and to handle emotionally charged situations while continuing to function in demanding environments. It is therefore treated as a psychological capacity rather than as the simple absence of stress. A nurse may encounter a high workload and still retain effective functioning if the person has adequate coping resources, professional confidence and capacity for emotional regulation.

The construct is particularly relevant to nursing because many workplace demands cannot be removed immediately. Clinical emergencies, patient suffering and rapid changes in patient condition are inherent in healthcare work. A psychological capacity that helps a nurse remain attentive and emotionally balanced may therefore have value even when the underlying stressor remains present.

Psychological well-being provides a complementary perspective. Ryff's model describes well-being through six dimensions: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance. This approach moves the discussion away from a narrow focus on distress and considers whether a person experiences competence, meaning, growth, meaningful relationships and a positive relationship with the self.

For nurses, these dimensions have practical relevance. Environmental mastery may be reflected in the ability to organize daily responsibilities and respond to workplace demands. Purpose in life may be connected with the meaning derived from caring for others, while positive relations may influence teamwork and the emotional quality of professional interactions. Autonomy and self-acceptance can also shape how nurses perceive their competence and personal agency.

The relationship between stress tolerance and psychological well-being is consequently worth examining as a positive psychological question. If nurses who are better able to tolerate stress also demonstrate higher psychological well-being, the finding may identify a resource that can be supported through education, supervision, organizational practices and psychological interventions. It would not, however, mean that stress tolerance alone determines well-being. The nursing workplace is influenced by workload, leadership, staffing, social support, shift patterns and other factors that may operate simultaneously.

Recent research continues to demonstrate the importance of occupational stress in nursing. Gmayinaam et al. (2024) studied 248 nurses in two government hospitals in Ghana and reported that 77.8% experienced moderate perceived stress. Their work examined workplace causes, effects and coping strategies, illustrating that stress needs to be considered together with the conditions in which nursing duties are performed.

Werke and Weret (2023) conducted a hospital-based cross-sectional study among nurses in public hospitals in Addis Ababa and reported that occupational stress affected more than half of the participants. Rotating work shifts were among the factors associated with occupational stress, a finding that is relevant to nursing because work schedules can influence recovery, sleep and the ability to manage professional demands.

Wudarczyk et al. (2025) examined burnout, perceived stress and coping strategies among nursing staff working in intensive care settings. Their study used the Maslach Burnout Inventory, Perceived Stress Scale and Mini-COPE. Although the present study uses different constructs and instruments, the recent evidence supports a broader view in which professional strain and adaptive psychological resources are considered together.

The Indian context adds another dimension to the problem. Nursing employment has expanded across government and private healthcare settings, while nurses may encounter migration, staffing pressure, changing technology, shift work and expectations from patients and families. Research conducted in one setting cannot automatically be transferred to another because hospital organization, professional culture and social conditions influence the meaning of occupational stress.

The present study was conducted in Thiruvananthapuram district, Kerala, among working nurses. The original postgraduate project identified moderate levels of stress tolerance and psychological well-being and found significant relationships and group differences. Reworking those findings as an empirical manuscript provides an opportunity to present the study in a concise journal-oriented form while retaining the original data and clearly separating observed results from possible explanations.

2. Background and Review of Literature

2.1 Occupational Stress in Nursing

Occupational stress among nurses has been examined from several perspectives, including workload, role conflict, interpersonal relations, organizational support and working conditions. Earlier nursing research established that hospital work contains multiple stressors and that the consequences may extend to job satisfaction, performance and health. The issue remains current because healthcare systems continue to depend on shift-based work and high levels of interpersonal contact.

Ankalesh and Kavya (2022) examined job satisfaction and occupational stress among government and private hospital nurses during the pandemic using a purposive sample of 100 nurses. Their study

provides a useful Indian comparison because it considered nursing stress during a period when clinical uncertainty and workload were unusually high. The work supports the view that occupational stress is closely tied to the organizational setting in which nursing duties are performed.

Werke and Weret (2023) used the Expanded Nursing Stress Scale in a hospital-based study and examined demographic and workplace factors through bivariate and multivariate analyses. Their finding that rotating shifts were associated with occupational stress is especially relevant to the present research because shift-related demands can influence recovery and psychological functioning.

Gmayinaam et al. (2024) compared work-related stress among nurses in two government hospitals in Ghana. Their study used the Perceived Stress Scale and Weiman Occupational Stress Scale and included 248 nurses. The authors examined both negative effects and coping strategies, demonstrating that stress is not adequately represented by a single measure of workload or emotional discomfort.

2.2 Stress Tolerance and Positive Adaptation

Stress tolerance differs conceptually from occupational stress. Occupational stress concerns the demands and psychological response associated with work, whereas stress tolerance focuses on the capacity to continue functioning under stress. The distinction is important because an individual can be exposed to considerable stress while still showing adaptive functioning. Studying the capacity alongside the stressor allows research to consider personal strengths rather than only adverse outcomes.

The concept is related to broader psychological ideas such as coping and resilience, although the constructs are not interchangeable. Coping describes strategies used to manage demands, resilience generally refers to adaptive functioning or recovery in the face of adversity, while stress tolerance describes the capacity to withstand stressful circumstances without becoming seriously impaired. The present study retains the construct used in the original project and does not treat it as identical to resilience or coping.

Wudarczyk et al. (2025) provide a useful recent example of a related approach. Their ICU nursing study considered perceived stress, burnout and coping together, using standardized measures and correlation analyses. The relevance to the present research lies in the recognition that nurses' responses to stress involve both the intensity of demands and the psychological resources available for managing them.

2.3 Psychological Well-Being

Ryff's model of psychological well-being provides a multidimensional account of positive psychological functioning. The model includes autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance. These dimensions offer a broader account of wellbeing than measures that focus only on distress, symptoms or life satisfaction.

In occupational settings, psychological well-being can be reflected in a person's ability to manage responsibilities, maintain meaningful relationships, continue developing, preserve a sense of purpose and accept the self. For nurses, such capacities may be particularly relevant because clinical practice involves both technical tasks and sustained emotional engagement with patients and colleagues.

The original study's dimensional findings are useful in this regard. Purpose in life had the highest mean among the six dimensions, followed by personal growth and environmental mastery. Positive relations and autonomy were comparatively lower. The pattern suggests that participants may have experienced relatively strong meaning and development while showing less favourable descriptive scores in interpersonal and autonomy-related areas.

2.4 Stress, Well-Being and Work Experience

Age and professional experience can influence how nurses perceive and manage workplace demands. Early-career nurses may still be developing clinical confidence and may experience greater uncertainty when responding to complex situations. Experienced nurses may have more established routines, professional networks and practical strategies, although accumulated exposure to demanding work may also create fatigue or burnout.

The literature therefore does not support a simple assumption that experience always improves wellbeing. Some studies have found greater stress among younger nurses, while other work has emphasized the cumulative burden associated with prolonged occupational exposure. The present study contributes to this discussion by examining stress tolerance and psychological well-being rather than occupational stress alone.

The study's results showed a clear descriptive gradient, with the 10+ years experience group reporting the highest mean scores on both stress tolerance and psychological well-being. This pattern is consistent with the possibility that professional experience is accompanied by greater psychological resources, but the cross-sectional design cannot determine whether experience causes the difference.

2.5 Gender and Psychological Outcomes

Gender differences in occupational stress and psychological well-being among nurses have produced mixed findings. Differences may be influenced by work allocation, social roles, family responsibilities, organizational support and perceived control rather than by gender itself. Consequently, gender comparisons are best treated as descriptive findings that require contextual interpretation.

The present study found higher scores among male nurses on both psychological well-being and stress tolerance. This result differs from studies that have reported no significant gender difference in work stress, including research summarized in the original project. The inconsistency across studies indicates that the relationship between gender and psychological outcomes may be sensitive to setting and sample characteristics.

2.6 Recent Evidence, 2020–2025

Recent literature reinforces the continuing need to examine nurses' psychological functioning in relation to occupational demands. Studies published between 2020 and 2025 have considered work stress, burnout, coping, social support, sleep and psychological outcomes in different nursing populations. The evidence generally indicates that professional demands do not operate in isolation; workplace resources and personal coping capacities can alter the experience and consequences of stress.

Gmayinaam et al. (2024) reported moderate perceived stress among most nurses in their Ghanaian sample, while Werke and Weret (2023) identified rotating shifts as a significant factor associated with occupational stress. Wudarczyk et al. (2025) further demonstrated the value of examining stress and coping together. These studies differ in country, sample and instruments, but they provide a contemporary context for interpreting the present findings.

3. Research Gap

A substantial body of research has examined occupational stress, burnout, job satisfaction and psychological distress among nurses. Comparatively less attention has been given to stress tolerance as a distinct positive psychological capacity, particularly when it is examined together with Ryff's multidimensional psychological well-being. Many studies focus on how much stress nurses experience,

whereas the present study also considers how effectively nurses may remain psychologically functional in stressful circumstances.

A second gap concerns the integration of demographic and career-stage variables. Age, gender and work experience are often reported as background characteristics, but their relationship with both stress tolerance and psychological well-being is not always examined together. The present analysis provides a compact empirical picture of these relationships within a nursing sample from Thiruvananthapuram district.

The study therefore contributes to the literature by linking a positive stress-related capacity with a multidimensional wellbeing construct and by examining whether the two outcomes vary across selected demographic and occupational groups. The findings are not intended to establish causal mechanisms, but they provide a basis for more comprehensive doctoral research on professional stress and nurses' psychological and physical well-being.

4. Conceptual Framework

The conceptual basis of the study is deliberately simple. Stress tolerance is treated as the principal psychological resource of interest, while psychological well-being is treated as the principal positive psychological outcome. Gender, age and work experience are considered grouping variables through which differences in the two constructs can be examined.

Stress Tolerance ↔ Psychological Well-Being

The double-headed relationship is used because the cross-sectional data establish association rather than temporal direction. Higher stress tolerance may support positive psychological functioning, while stronger psychological well-being may also help a nurse manage stressful experiences more effectively. The framework therefore avoids claiming a one-way causal effect that cannot be established by the present design.

5. Objectives of the Study

1. To study the extent and nature of stress tolerance among nurses.
2. To study the extent and nature of psychological well-being among nurses.
3. To understand the relationship between stress tolerance and psychological well-being among nurses.
4. To analyse stress tolerance and psychological well-being among nurses with respect to gender, age and work experience.

6. Hypotheses

1. There will be a significant relationship between stress tolerance and psychological well-being among nurses.
2. There will be a significant gender difference in stress tolerance and psychological well-being among nurses.
3. There will be a significant difference in stress tolerance and psychological well-being among nurses based on age.
4. There will be a significant difference in stress tolerance and psychological well-being among nurses based on work experience.

7. Methodology

7.1 Research Design

The original postgraduate project used a descriptive research design. For publication purposes, the study can more precisely be described as a cross-sectional descriptive-correlational study because information was collected from participants at one point in time and the principal analysis examined the association between two continuous psychological variables. The design also permitted comparison of group means across gender, age and work experience.

A cross-sectional design is appropriate for an initial investigation of psychological characteristics within a defined occupational population. It is comparatively efficient for identifying associations and group patterns, but it does not permit conclusions about causality or change over time. Accordingly, all inferential findings in this manuscript are interpreted as associations or group differences rather than effects produced by the measured characteristics.

7.2 Study Area and Participants

The study was conducted among nurses working in hospitals in Thiruvananthapuram district, Kerala. The sample consisted of 100 nursing professionals between 21 and 50 years of age, including 50 male and 50 female nurses. Participants had more than one year of professional experience and were selected through purposive sampling according to the study's inclusion criteria.

Nurses working on a part-time or temporary basis and nurses working outside Thiruvananthapuram district were excluded. The original project also excluded nurses with mental disorders or physiological problems. For a journal submission, the final manuscript should retain the exact ethics and institutional-permission wording used in the approved postgraduate project if those records are available.

7.3 Research Instruments

A Personal Data Sheet was used to record relevant socio-demographic information. The principal psychological measure of well-being was the 42-item Ryff Psychological Well-Being Scale, adapted from Ryff's model and organized into six dimensions: autonomy, environmental mastery, personal growth, positive relations, purpose in life and self-acceptance. The scale uses a six-point response format, with higher total scores representing better psychological well-being.

Stress tolerance was measured using the Stress Tolerance Scale developed by Resmi and Sananda Raj in the Department of Psychology, University of Kerala. The final instrument described in the project contains 30 items, including favourable and unfavourable statements, with responses recorded on a five-point scale. Higher scores indicate better stress tolerance. The project reports split-half reliability of .70 and full-scale reliability of .82 using the Spearman–Brown formula, while criterion-related validity was reported as .72 against the Stress Tolerance Inventory of Asha Balagangadharan.

7.4 Procedure

Data collection followed the procedures described in the postgraduate project. Participants were approached according to the defined sampling criteria and the purpose of the study was explained before responses were obtained. The instruments were administered after obtaining voluntary participation, and the completed responses were scored according to the instructions associated with each measure.

The completed data were organized for statistical analysis using SPSS Version 26. The analysis focused on the overall levels of psychological well-being and stress tolerance, the association between the two

variables, and differences across gender, age and work-experience groups. The results reported below reproduce the values available in the final project rather than introducing new observations.

7.5 Statistical Analysis

Descriptive statistics were used to summarize the two principal variables and the six dimensions of psychological well-being. Mean and standard deviation were used to describe central tendency and dispersion. Pearson's product-moment correlation coefficient was used to examine the direction and strength of the association between stress tolerance and psychological well-being.

For gender comparisons, an independent-samples t-test was used. For age and work-experience comparisons, one-way ANOVA was used because each variable contained three groups. A significance level of 0.05 was used in the original analysis. Supplementary effect-size estimates are included below where they can be derived directly from the reported statistics.

Pearson correlation: $r = \frac{\sum[(X - \bar{X})(Y - \bar{Y})]}{\sqrt{[\sum(X - \bar{X})^2 \times \sum(Y - \bar{Y})^2]}}$

Independent-samples t-test: $t = (M_1 - M_2) / SE(M_1 - M_2)$

One-way ANOVA: $F = MS_{\text{between}} / MS_{\text{within}}$

The formulae show the statistical basis of the reported analyses. Participant-level calculations are not reproduced because the raw response matrix is not contained in the project material used for this manuscript. The reported means, standard deviations, correlation, t statistics, F statistics and significance values are taken from the completed project.

8. Results

8.1 Descriptive Statistics for Psychological Well-Being

Measure	N	Mean	SD
Ryff Psychological Well-Being Scale	100	165.18	13.51

The mean score for psychological well-being was 165.18, with a standard deviation of 13.51. The original project reports a possible total score range of 42–252 and interprets the observed mean as indicating a moderate level of psychological well-being. The result suggests that the participants, considered as a group, occupied a middle range of positive psychological functioning rather than a uniformly high level.

The standard deviation indicates variation between participants. Nurses working within the same broad occupational setting can experience their professional and personal circumstances differently, and the spread around the mean is compatible with this individual variation. The descriptive result therefore provides the starting point for examining whether particular dimensions or participant characteristics are associated with higher or lower wellbeing.

8.2 Profile of Psychological Well-Being Dimensions

Dimension	Mean	SD
Autonomy	26.42	2.78
Environmental mastery	29.19	2.904
Personal growth	31.28	3.07
Positive relations	21.71	2.52

Purpose in life	32.99	2.77
Self-acceptance	28.55	2.64

The six dimensions showed a differentiated profile. Purpose in life recorded the highest mean at 32.99, followed by personal growth at 31.28 and environmental mastery at 29.19. Self-acceptance had a mean of 28.55, autonomy 26.42 and positive relations 21.71.

The relatively high purpose-in-life score may be meaningful in a profession strongly associated with caregiving and service. Nurses may derive a sense of meaning from their role even when the work is demanding. The comparatively lower descriptive scores for positive relations and autonomy suggest areas that may deserve attention, especially because teamwork and perceived professional control are relevant to functioning in hospital environments.

8.3 Descriptive Statistics for Stress Tolerance

Measure	N	Mean	SD
Stress Tolerance Scale	100	55.60	7.51

The mean stress-tolerance score was 55.60, with a standard deviation of 7.51. The original project reports a possible score range of 30–150 and interprets the sample mean as indicating a moderate level of stress tolerance. This result indicates that the participants, as a group, possessed a measurable capacity to function under stress, but the level was not interpreted as high.

The variability is important because a single mean can conceal differences between nurses. Some participants may have stronger tolerance and others may be more vulnerable to impairment under pressure. The subsequent correlation and subgroup analyses help identify whether this variation is systematically related to psychological well-being or selected demographic and occupational characteristics.

8.4 Relationship between Stress Tolerance and Psychological Well-Being

Variables	r	N	p
Stress Tolerance and Psychological Well-Being	0.423	100	< .001

Pearson's product-moment correlation produced a positive coefficient of $r = .423$, with $N = 100$ and $p < .001$. The result indicates a statistically significant positive association between stress tolerance and psychological well-being. As stress tolerance increased, psychological well-being also tended to increase in the study sample.

The coefficient can be squared to obtain a simple shared-variance indicator: $r^2 = (.423)^2 = .179$. Thus approximately 17.9% of the variance in one variable is linearly shared with the other in this sample. This should not be interpreted as 17.9% of psychological well-being being caused by stress tolerance; the statistic only describes the proportion of linear variance common to the two measured variables.

The result supports the first hypothesis. It is also compatible with a reciprocal interpretation. Nurses with greater stress tolerance may preserve more effective functioning under pressure, while nurses with stronger psychological well-being may have greater internal resources for managing stressful events. A longitudinal or intervention design would be required to establish temporal direction.

8.5 Gender Difference in Psychological Well-Being

Gender	N	Mean	SD	t(98)	p
Male	50	169.96	12.55	3.26	.001
Female	50	160.40	13.22		

The independent-samples t-test indicated a significant gender difference in psychological well-being, $t(98) = 3.26$, $p = .001$. Male nurses recorded a mean of 169.96, whereas female nurses recorded a mean of 160.40. The difference between the group means was 9.56 points.

An approximate Cohen's d can be derived from the reported t statistic because the two groups contain equal numbers of participants. Using $d = t\sqrt{(1/n_1 + 1/n_2)}$, the estimated standardized difference is approximately 0.65, indicating a moderate group difference. This supplementary estimate does not replace the original t-test and should be checked against raw-data output before final submission.

8.6 Gender Difference in Stress Tolerance

Gender	N	Mean	SD	t(98)	p
Male	50	57.72	8.42	2.92	.004
Female	50	53.48	5.82		

Stress tolerance also differed significantly by gender, $t(98) = 2.92$, $p = .004$. Male nurses had a mean stress-tolerance score of 57.72 compared with 53.48 among female nurses, producing a mean difference of 4.24 points. The approximate Cohen's d derived from the reported t statistic is 0.58, suggesting a moderate standardized group difference.

The direction of this result is consistent with the psychological-wellbeing comparison. However, the finding should not be read as evidence that gender itself determines stress tolerance. The original project discusses dual-role responsibilities, family expectations, work schedules and workplace conditions as possible contextual contributors. These explanations were not independently measured in the present analysis and should therefore remain interpretive possibilities.

8.7 Age Difference in Psychological Well-Being

Age group	N	Mean	SD	F(2,97)	p
21–30 years	40	160.12	6.83	4.08	.020
31–40 years	40	167.64	8.91		
41–50 years	20	171.23	6.43		
Total	100	165.18	13.51		

The one-way ANOVA showed a significant difference in psychological well-being across age groups, $F(2,97) = 4.08$, $p = .020$. The mean score increased from 160.12 among nurses aged 21–30 years to 167.64 among those aged 31–40 years and 171.23 among those aged 41–50 years.

An approximate eta squared can be obtained from the reported F statistic: $\eta^2 = [F(k - 1)]/[F(k - 1) + (N - k)]$. With three groups and $N = 100$, η^2 is approximately .078. This indicates that about 7.8% of the observed variance in psychological well-being is associated with age-group membership. Post-hoc testing would be required to establish which specific pairs differ statistically.

8.8 Age Difference in Stress Tolerance

Age group	N	Mean	SD	F(2,97)	p
21–30 years	40	50.77	8.22	4.08	.020

31–40 years	40	54.02	7.44		
41–50 years	20	59.40	5.67		
Total	100	55.60	7.51		

Stress tolerance also differed significantly across age groups, $F(2,97) = 4.08$, $p = .020$. Mean stress tolerance was 50.77 for the 21–30-year group, 54.02 for the 31–40-year group and 59.40 for the 41–50-year group. The oldest group therefore had the highest mean score.

The parallel age pattern across stress tolerance and psychological well-being is noteworthy. The finding may be compatible with greater professional familiarity and confidence among older nurses, although age is also linked with many other life and work circumstances. The result should therefore be considered a group pattern rather than evidence of a direct age effect.

8.9 Work-Experience Difference in Psychological Well-Being

Experience	N	Mean	SD	F(2,97)	p
1–2 years	16	158.31	12.61	6.14	< .001
3–10 years	63	162.88	14.12		
10+ years	21	169.14	12.22		
Total	100	165.18	13.51		

Psychological well-being differed significantly by work experience, $F(2,97) = 6.14$, $p < .001$. The lowest mean was observed among nurses with 1–2 years of experience (158.31), followed by those with 3–10 years (162.88), while the 10+ years group had the highest mean (169.14). The difference between the least and most experienced groups was 10.83 points.

Using the reported F statistic, the approximate eta squared is .112. This indicates that around 11.2% of the variance in psychological well-being is associated with the experience-group classification in this sample. The statistic does not establish that years of service cause better wellbeing, and the absence of post-hoc results prevents precise conclusions about every pairwise group comparison.

8.10 Work-Experience Difference in Stress Tolerance

Experience	N	Mean	SD	F(2,97)	p
1–2 years	16	50.25	7.13	5.74	< .001
3–10 years	63	53.41	6.30		
10+ years	21	61.67	7.98		
Total	100	55.60	7.51		

Stress tolerance also differed significantly according to work experience, $F(2,97) = 5.74$, $p < .001$. Mean stress tolerance rose from 50.25 among nurses with 1–2 years of experience to 53.41 among those with 3–10 years and 61.67 among those with more than 10 years. The experienced group therefore recorded the strongest stress-tolerance level in the sample.

The estimated eta squared is approximately .106, indicating that about 10.6% of the variance in stress tolerance is associated with the experience-group classification. The consistent direction of the experience findings for both variables gives the result practical interest, but longitudinal research would be needed to determine whether professional experience strengthens tolerance and wellbeing or whether nurses with stronger adaptive resources are more likely to remain in the profession.

9. Discussion

9.1 Overall Pattern

The study presents a consistent pattern across its major analyses. The nurses reported moderate levels of psychological well-being and stress tolerance, and the two variables were positively related. The relationship was statistically significant and of moderate size, suggesting that stress tolerance is relevant to positive psychological functioning but does not account for the whole picture.

9.2 Stress Tolerance as a Resource

Stress tolerance may be especially useful in nursing because many workplace demands cannot be removed immediately. Clinical emergencies, patient suffering and rapid changes in patient condition are inherent in healthcare work. A psychological capacity that helps a nurse remain composed and functional may therefore have value even when the underlying stressor remains present.

9.3 Psychological Well-Being as More Than Absence of Distress

The use of Ryff's framework provides a useful strength-based interpretation of the findings. The highest descriptive dimension was purpose in life, followed by personal growth and environmental mastery. This pattern may reflect the meaning that participants attach to their professional role and the competence that develops through continued practice.

9.4 Comparison with Recent Nursing Research

The findings can be placed alongside recent international evidence. Gmayinaam et al. (2024) found moderate perceived stress among most nurses in their Ghanaian sample and examined occupational causes and coping responses. The present study similarly identified a moderate overall level on its principal stress-related construct, although stress tolerance is not equivalent to perceived stress. The comparison supports the broader observation that stress-related experiences are common among nursing professionals.

9.5 Comparison with Werke and Weret (2023)

Werke and Weret (2023) reported an association between rotating shifts and occupational stress among nurses in Addis Ababa. This finding is relevant because work schedules can affect sleep and recovery, which may in turn influence the psychological capacity to tolerate professional demands. The present dataset did not include a detailed shift-work analysis, so this possible pathway remains an important direction for further research.

9.6 Comparison with Wudarczyk et al. (2025)

Wudarczyk et al. (2025) examined burnout, perceived stress and coping strategies among ICU nursing staff. Their work demonstrates the value of combining stress exposure with coping and burnout rather than examining a single occupational outcome. Nisha's study adds a different perspective by pairing stress tolerance with a multidimensional measure of psychological well-being.

9.7 Gender Findings

The higher stress tolerance and psychological well-being scores among male nurses were statistically significant in the present sample. The pattern appeared for both outcomes, and the derived standardized

differences were moderate. The finding is therefore worthy of further investigation, but it should not be generalized as a universal gender characteristic.

9.8 Age and Experience Findings

Older and more experienced nurses showed higher mean scores on both stress tolerance and psychological well-being. The similarity of the two patterns is one of the strongest descriptive features of the study. It may indicate that professional maturity is accompanied by greater confidence and more developed strategies for dealing with difficult clinical circumstances.

9.9 Practical Interpretation

The results suggest that nurse wellbeing programmes should include psychological resources alongside organizational measures. Stress-management education, emotional regulation skills, reflective practice and peer support may help nurses recognize and manage demanding situations. At the same time, such programmes should not place the entire responsibility for occupational stress on individual nurses.

10. Implications of the Study

10.1 Implications for Nursing Practice

The study supports the inclusion of stress tolerance and psychological wellbeing within routine discussions of professional health. Nurse educators and clinical supervisors can use the findings to emphasize early recognition of stress responses and practical methods of coping with emotionally demanding situations. The aim should be to maintain professional functioning without normalizing chronic exhaustion.

10.2 Implications for Hospital Management

Hospital administrators may consider workload, staffing, shift design and recovery opportunities as psychological-wellbeing issues rather than purely operational concerns. Supportive supervision and clear communication can also strengthen the social resources available to nurses. Where possible, confidential counselling and referral pathways should be accessible without creating fear that seeking help will affect professional standing.

10.3 Implications for Early-Career Nurses

The lower mean scores observed among nurses with 1–2 years of experience suggest that early-career staff may benefit from structured professional support. Mentoring, supervised exposure to difficult cases, peer discussion and practical stress-management education may help new nurses build confidence while they develop clinical competence. Future intervention research should test these possibilities rather than assuming that experience alone will produce improvement.

10.4 Implications for Future Research

The study provides a foundation for research that incorporates professional stress, psychological wellbeing and physical wellbeing within a broader model. Additional variables such as sleep quality, burnout, coping, social support, shift work and perceived organizational support could clarify the mechanisms underlying the present associations. Such work is particularly relevant to Nisha Hameed's

doctoral research, which extends the focus from stress tolerance toward the implications of professional stress for psychological and physical well-being among nurses.

11. Limitations

The sample was limited to 100 nurses from hospitals in Thiruvananthapuram district and was selected through purposive sampling. The findings therefore cannot be generalized automatically to all nurses in Kerala or to nursing populations in other regions and healthcare systems. The equal male and female distribution was useful for group comparison but may not represent the actual gender composition of the nursing workforce.

The cross-sectional design prevents causal interpretation. The positive correlation between stress tolerance and psychological well-being does not establish which variable precedes the other. The use of self-report measures also means that responses may be affected by current mood, social desirability or the participant's willingness to report personal difficulties.

The study did not directly assess physical health, occupational stress exposure, coping strategies, sleep or organizational support. These omissions are important because they may explain part of the variation in wellbeing and stress tolerance. Future research should incorporate these variables and, where feasible, use longitudinal or intervention designs.

12. Conclusion

The present study examined stress tolerance and psychological well-being among 100 nurses in Thiruvananthapuram district. Both variables were found to be at moderate levels according to the interpretation used in the original project. The central finding was a statistically significant positive association between stress tolerance and psychological well-being, $r = .423$, $p < .001$, indicating that nurses with stronger stress tolerance tended to report better psychological well-being.

Significant differences were also found across gender, age and work experience. Male nurses recorded higher mean scores on both outcomes, while nurses aged 41–50 years and nurses with more than 10 years of experience recorded the highest mean scores. The results provide a useful preliminary picture of adaptive psychological functioning among nurses and support the need to consider personal resources alongside workplace stressors.

The findings should be understood as evidence of association within a specific sample rather than as proof of causation. Nevertheless, they provide a meaningful empirical base for further research on professional stress, psychological well-being and physical well-being among nurses. A broader doctoral investigation can build on this foundation by examining occupational stressors, coping, organizational resources, sleep and physical health within a more comprehensive framework.

13. Data Analysis Summary

Analysis	Statistical result	Interpretation
Psychological well-being	$M = 165.18$, $SD = 13.51$	Moderate level in original study
Stress tolerance	$M = 55.60$, $SD = 7.51$	Moderate level in original study
Stress tolerance $\times$ psychological well-being	$r = .423$, $p < .001$	Significant positive association
Gender: psychological well-being	$t(98) = 3.26$, $p = .001$	Male mean higher; $d \approx .65$

Gender: stress tolerance	$t(98) = 2.92, p = .004$	Male mean higher; $d \approx .58$
Age: psychological well-being	$F(2,97) = 4.08, p = .020$	Significant group difference; $\eta^2 \approx .078$
Age: stress tolerance	$F(2,97) = 4.08, p = .020$	Significant group difference
Experience: psychological well-being	$F(2,97) = 6.14, p < .001$	Significant group difference; $\eta^2 \approx .112$
Experience: stress tolerance	$F(2,97) = 5.74, p < .001$	Significant group difference; $\eta^2 \approx .106$

Note. Effect sizes shown above are derived from the reported summary statistics and should be checked against the original SPSS output before submission, particularly if the authors later add confidence intervals or post-hoc comparisons.

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