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Psychological distress in registered nurses and the role of the workplace: A cross-sectional study

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ABSTRACT

Objective: To investigate the impact of workplace factors on psychological distress in New Zealand registered nurses.

Background: Nurses are often faced with challenging work environments, with long work hours, high patient ratios, and emotionally charged situations that cause stress. Despite the well-established links between the nurse work environment and well-being, there remains a gap in the literature around the role of workplace factors on psychological distress in nurses.

Study design and methods: A cross-sectional survey was conducted with registered nurses in New Zealand. Depression, anxiety, and stress were self-reported using the DASS-21, while difficult practice environments and negative workplace acts were self-reported using PES-NWI and NAQ-R. Descriptive and inferential statistics were undertaken using SPSS. STROBE guidelines were used to report the study.

Results: 480 RNs completed the survey. On average, depression, anxiety, and stress scores were 6.08 (SD=7.06, Normal), 4.87 (SD=6.05, Normal), and 9.50 (SD=7.30, Normal), respectively. The Average PES-NWI score was 2.70 (SD=0.54), while the average total NAQ-R score was 34.27 (SD=12.67). Depression, anxiety, and stress scores were positively associated with NAQ-R scores, and negatively associated with PES-NWI scores (p-values <0.05). PES-NWI score was negatively associated with NAQ-R score (p<0.05). PES-NWI and NAQ-R explained 28.8%, 15.6%, and 26.1% of the variation in depression, anxiety, and stress, respectively. Depression, anxiety, and stress were significantly associated with intention to leave (p-values <0.05). Depression and anxiety were significantly associated with ethnicity (p-values <0.05). Age was negatively associated with anxiety and stress (p-values <0.05). Years employed as a nurse were also negatively associated with anxiety (p<0.05).

Discussion: This study addresses a knowledge gap by demonstrating that workplace factors are associated with psychological distress in nurses.

Conclusion: Psychological distress in nurses is significantly associated with the work environment and with intention to leave the profession. Given that most countries are facing nurse shortages and

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are actively recruiting nurses from diverse countries and ethnic backgrounds, targeted and individualised support needs to be provided to preserve nurses' mental health and subsequent retention in the workforce.

Implications for research, policy, and practice: Healthcare providers must prioritise modifying the work environment to address the factors contributing to nurses' psychological distress. This includes providing culturally tailored mental health resources and support for nurses with diverse backgrounds and experiences. Future research should examine how organisational-level strategies can reduce psychological distress in nurses.

What is already known about the topic?
- Psychological distress is common in nurses.
- Indicators of psychological distress include non-specific symptoms of stress, anxiety, and depression.

- Psychological distress is associated with challenging working conditions.

What this paper adds:
- Vulnerable groups, such as nurses from specific ethnic backgrounds and less experience, report higher levels of psychological distress, such as anxiety and depression.
- The quality of the practice environment is associated with psychological distress in registered nurses.
- Negative acts in the workplace (i.e., bullying and harassment) are positively associated with psychological distress in registered nurses.

Keywords: bullying; nursing; psychological distress; survey; workplace

BACKGROUND

Nurses can experience psychological distress when faced with challenging work conditions.[1,2] Psychological distress is the physical and emotional discomfort nurses experience due to job demands. It can include symptoms of depression, anxiety, and stress.[3,4] An Australian study examining the prevalence of depression, anxiety, and stress (proxy indicators of psychological distress) in a group of Australian nurses working in various settings found that prevalence rates of depression, anxiety, and stress, when using clinical cutoff scores, were 32.4%, 41.2%, and 41.2%, respectively.[1] Psychological distress can lead to individual suffering, including reduced job satisfaction, impaired quality of life, and increased alcohol consumption.[5-7] Additionally, psychological distress in nurses can result in adverse clinical outcomes that risk patient safety and quality delivery of care. Other workplace outcomes may include increased absenteeism and turnover.[8-10]

Challenging work conditions faced by nurses include excessive workloads, unsupportive management, shift work, understaffing, bullying, harassment, abuse, workplace discrimination, interpersonal conflict, and lack of professional support or mentorship.[9-12] Several studies have highlighted the association between workplace factors and psychological distress in RNs.[13-16] A study on US hospital nurses found that both occupational and non-occupational factors predict psychological distress in nurses. Occupational factors included unit tenure (length of time the nurse has worked in the unit), professional experience, position level, job/nonjob conflict (impact of work on non-work activities), and relations with the head nurse, coworkers, physicians, and

other units/departments. Non-occupational factors included personal disposition and social integration.[13] A longitudinal study with Scottish nurses (N=147) and nursing students (N=212) found that stress, life events, and level of self-esteem were associated with psychological distress. In addition, higher levels of psychological distress were reported in newly qualified nurses beginning their careers.[14] A study involving nurses in Iran found psychological distress was associated with gender, marital status, employment status, age, work history, shift work, and ward type.[15] Psychological distress was higher in single female nurses and nurses on 'trial' employment contracts.[15] Similarly, a Portuguese study identified that psychological distress was associated with being female, absence of physical exercise, lack of hobbies, and primary health work location.[16] These findings demonstrate that nursing-related psychological distress is a global issue, highlighting the urgent need for comprehensive strategies to promote healthier workplaces.

Several studies have explored depression, anxiety, and stress in nursing populations as a proxy for psychological distress.[17,18] To assess these conditions, researchers often use the Depression, Anxiety and Stress Scale, which measures non-specific symptoms of stress, anxiety, and depression.[19] A study exploring the psychosocial impact of the COVID-19 pandemic on Australian nurses and midwives found that about a fifth of nurses and midwives reported moderate to extremely severe symptoms of depression, anxiety, and stress. A study of nurses from Queensland (Australia) found depression, anxiety, and stress were negatively associated with compassion satisfaction and resilience and positively associated with burnout and secondary traumatic stress.[20]

Another Australian study of mental health nurses found that depression, anxiety, and stress were negatively associated with resilience and psychological well-being.[21]

Efforts to address psychological distress or burnout in nurses have mainly focused on the individual.[22,23] Interventions have included resilience training,[24] mindfulness training,[25] and stress management training.[26] Although fewer studies have investigated organisational-level interventions, research indicates that addressing the causes of unhealthy work environments can improve nurse and patient outcomes.[27,28]

Two lines of inquiry have been instrumental in our understanding of how workplaces affect nurse outcomes: 1) The International Hospital Outcomes Study (IHOS) and 2) The Bergen Bullying Research Group's (BBRG) work on bullying and harassment in the workplace.[29,30] The IHOS reflects a wealth of international research that provides reliable and generalisable evidence demonstrating that staffing levels and the quality of the practice environment are linked to nurse, patient, and hospital outcomes.[28,31] The BBRG has gathered data from over 60 studies and more than 40,000 respondents from around 40 countries. The information is stored in the International Database on the Prevalence and risk factors of Bullying at work (IDPB). The findings from this research showed that employees exposed to negative acts in the workplace, including bullying, harassment and threats of violence, reported various adverse mental and physical health outcomes.[11] The IHOS and BBRG provide valuable frameworks for examining workplace factors contributing to registered nurses' psychological distress.

Given the critical role nurses play in our healthcare system, efforts to improve work environments for nurses should be a priority for all health services, particularly given the global nursing shortage.[32] However, in New Zealand, research in this area is lacking. Therefore, this study aimed to investigate the impact of workplace factors on psychological distress in NZ RNs.

OBJECTIVE

To investigate the impact of workplace factors on psychological distress in NZ RNs.

STUDY DESIGN AND METHODS

DESIGN

A cross-sectional survey design was used to identify associations between workplace factors (practice environment and negative acts in the workplace) and psychological distress (depression, anxiety, and stress).

STUDY POPULATION, SETTING, AND SAMPLE

New Zealand, a developed nation, has 74,439 practising (having a current annual practising certificate) RNs on the Register maintained by the Nursing Council of New Zealand (NCNZ) in December 2023. Nearly 43% of RNs were internationally qualified.[33] Approximately 91% were female; 41% were 50 years or older; 50% had practised for 15 or more years, and 7.6% identified as Māori, NZ's Indigenous population. Over 60% of all NZ RNs were employed in one of the 20 District Health Boards.[34] A convenience sample of RNs who were members of the New Zealand Nurses Organisation (NZNO) were invited (approximately 40,700 in 2018) to participate in this study.

DATA COLLECTION

Data was collected in under three months, between 23 August and 4 November 2018. Five thousand RNs were randomly selected from the NZNO database and invited to participate by email. The NZNO population has a demographic profile similar to the national NZ nursing population. The email invitation included information about the study, research team contact details, and a SurveyMonkey™ link to the anonymous online survey. A participant information sheet was provided at the beginning of the survey, which conformed to ethical procedures. Informed consent was provided by participants endorsing an electronic consent statement. Three reminders were sent at weeks two, four, and six. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist for cross-sectional studies was used for this paper to ensure clear and complete reporting of study conduct.[35]

ETHICS AND CULTURAL CONSIDERATIONS

Ethical approval was obtained from the Central Queensland University Human Research Ethics Committee (CQU HREC) (approval number 2110). Study approval was also obtained from NZNO (1 May 2018). Māori (Indigenous) consultation was undertaken through the University of Otago.

VARIABLES AND MEASUREMENTS

Demographic Characteristics

Demographic and job-related characteristics self-reported by the participants included age, gender (male, female, other), ethnicity (European, Non-European), relationship status (single, in a relationship, defacto/married/cohabitating, other), employment status (full-time, part-time, other), highest nursing qualification (undergraduate, postgraduate, other), years employed as a nurse, place of employment (DHB, non-DHB), and intention to leave in the last 12 months (yes, no).

Validated Surveys

Psychological distress was measured using the 21-item Depression, Anxiety, and Stress Scale (DASS).[36] The DASS is a self-report four-point severity scale that measures negative emotional states of depression, anxiety, and stress over the last week. The DASS-21 has been shown to have high internal consistency, producing coefficient alpha values of 0.88, 0.82, and 0.90 for the depression, anxiety, and stress subscales, respectively.[37] A study using a UK non-clinical sample found a mean of 5.66 (SD= 7.74), 3.76 (SD= 5.90), and 9.46 (SD= 8.40) for the depression, anxiety, and stress scales, respectively.[37] Scores on the three subscales are calculated by summing the seven items within each scale and multiplying by 2. Scores on the three subscales range from 0 to 42. The recommended cut-off scores for conventional severity labels are presented in Table 1.

TABLE 1: DASS21 DEPRESSION, ANXIETY AND STRESS SEVERITY RATING AND CLINICAL CUT-OFF CORES (LOVIBOND & LOVIBOND, 1995)

	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

The Practice Environment Scale of the Nursing Work Index (PES-NWI)[38] was used to assess the practice environment. The PES-NWI includes 31 items with five subscales with items scored on a Likert scale. The four responses are: 1 = strongly agree, 2 = somewhat agree, 3 = somewhat disagree, and 4 = strongly disagree. The five subscales are: 1) nurse participation in hospital affairs (nine items), 2) nurse foundations for quality of care (nine items), 3) nursing unit manager ability, leadership, and support of nurses (five items), 4) staffing and resource adequacy (four items), 5) collegial nurse–doctor relations (three items). The PES-NWI has been used in a revised form within the Australian context, with one item removed (item 31: "use of nursing diagnosis"), as Australian nurses do not diagnose patients.[39] This also applies in the NZ context. The revised version has been validated using a Queensland nursing population demonstrating good psychometric properties.[40] Response categories were reversed; 1 = strongly disagree, 2 = somewhat disagree, 3 = somewhat agree, and 4 = strongly agree. A composite (overall) score can be calculated by averaging the five summed subscale scores. The composite score was used in this study.

The Negative Acts Questionnaire-Revised (NAQ-R)[41] was used to assess perceived exposure to negative acts in the workplace. The NAQ-R, a 22-item self-report survey consisting of three subscales, measures the frequency, intensity, and prevalence of unwanted and negative behaviour and workplace bullying within the past six months. The three subscales are 1) person-related bullying (seven items), 2) work-related bullying (12 items), and 3) physically intimidating bullying (three items). Examples of unwanted behaviour include being exposed to persistent unjustified criticism, having information withheld that affects performance and being ordered to do work below the level of competence. Bullying behaviours included finger-pointing, being shouted out, being threatened, and having one's personal space invaded. The NAQ-R items assess a respondent's perception of exposure to unwanted and negative behaviour, which may be deemed bullying if occurring frequently over time (often referred to as the 'behavioural method'). The NAQ-R has five responses: 1 = never, 2 = now and then, 3 = monthly, 4 = weekly, and 5 = daily. Total NAQ-R scores (using the first 22 items) range from 22-110, with higher scores indicating heightened intensity. The NAQ-R has good psychometric properties.[42] The total NAQ-R score was used for this study.

DATA ANALYSIS

Analyses were conducted using SPSS, v27.0. Descriptive statistics were presented as mean (SD) for quantitative variables and frequencies and percentages for categorical ones. T-test and ANOVA were used to examine associations between psychological distress (depression, anxiety, and stress) and sample characteristics (categorical variables). Pearson's correlations were computed to test associations between psychological distress with age, years employed as a nurse, the five subscales of the PES-NWI, and three subscales of the NAQ-R. Multiple linear regression was used for multivariable analysis to determine the associations between workplace factors (i.e., practice environment and bullying) and psychological distress.

Two regression models were run. Model 1 included two workplace factors, i.e., average PES-NWI score and average NAQ-R score. Model 2 had the two workplace factors adjusted for age, gender, relationship status, ethnicity, years employed as a nurse, highest nursing qualification, and place of employment. Assumptions were checked and met. Regression coefficients and 95% confidence intervals were reported for workplace factors. To assess their internal consistency reliability, Cronbach's alphas were calculated for the DASS-D, DASS-A, DASS-S, PES-NWI, NAQ-R, and all subscales. Missing values were excluded from analyses. All p-values are two-sided and considered significant if <0.05.

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RESULTS

A total of 479 participants completed all the survey scales, and the 'completed' response rate was 9.70% (479/4,939 after removing inactive emails). Items within the three subscales of the DASS were well correlated; Cronbach's alphas (α) were 0.87, 0.80, and 0.85 for depression, anxiety, and stress scales, respectively. The PES-NWI and NAQ-R showed good internal consistency, as reported previously.[43] Table 2 shows the demographic and job characteristics of the sample. The attributes of this sample are similar to those of the national sample. On average, depression, anxiety, and stress scores were 6.08 (SD=7.06), 4.87 (SD=6.05), and 9.50 (SD=7.30), respectively. The average PES-NWI score was 2.70 (SD=0.54), while the average total NAQ-R score was 34.27 (SD=12.67). The prevalence of normal, mild, moderate, severe, and extremely severe are shown in Table 3.

TABLE 2: PARTICIPANT CHARACTERISTICS (N = 479)

	n	% or mean (SD)
Gender		
Male/other	27	5.6%
Female	452	94.4%
Age (years)		
<50	231	48.2%
50 and over	248	51.8%
Average age (years)		47.5 (12.62)
Relationship Status		
Single/other	111	23.2%
In a relationship	51	10.6%
Married/defacto/cohabitating	317	66.2%
Ethnicity		
European	364	76.0%
Non-European	115	24.0%
Highest Nursing Qualification		
Undergraduate/other	365	76.2%
Postgraduate	114	23.8%
Employment Type		
Full-time	233	48.6%
Part-time/other	246	51.4%
Years Employed as a Nurse (years)		
0-15	185	38.6%
>15	294	61.4%
Average Years Employed as a Nurse		21.1 (13.67)

	n	% or mean (SD)
Place of Employment		
District Health Board	297	62.0%
Non-District Health Board	182	38.0%
Intention to Leave		
Yes	251	52.4 (%)
No	228	47.6 (%)
Other		
DASS-D score		6.08 (7.06)
DASS-A score		4.87 (6.05)
DASS-S score		9.50 (7.30)
PES-NWI composite score		2.71 (0.54)
Nurse Participation in Hospital Affairs sub-scale score		2.41(0.65)
Staffing and Resource Adequacy sub-scale score		2.43 (0.78)
Nurse Foundations of Quality Care sub-scale score		2.92 (0.53)
Collegial Nurse Doctor Relations sub-scale score		3.11 (0.68)
Nurse Manager, Leadership and Support of Nurses sub-scale score		2.70 (0.78)
NAQ-R total score		34.23 (12.66)
Person-related bullying sub-scale score		17.33 (7.04)
Work-related bullying sub-scale score		12.65 (5.30)
Physically intimidating bullying sub-scale score		4.25 (1.90)

DASS-D: Depression Anxiety Stress Scale – Depression; DASS-A: Depression Anxiety Stress Scale – Anxiety; DASS-S: Depression Anxiety Stress Scale - Stress PES-NWI: Practice Environment Scale-Nurse Work Index; NAQ-R: Negative Acts Questionnaire-Revised.

TABLE 3: DASS SEVERITY CATEGORY (N = 479)

	Depression n (%)	Anxiety n (%)	Stress n (%)
Normal	356 (74.3)	362 (75.6)	378 (78.9)
Mild	51 (10.6)	26 (5.4)	52 (10.9)
Moderate	48 (10.0)	55 (11.5)	33 (6.9)
Severe	15 (3.1)	16 (3.3)	13 (2.7)
Extremely Severe	9 (1.9)	20 (4.2)	3 (0.6)

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Table 4 shows the Pearson's correlations between the three subscales of the DASS, PES NWI, and NAQ-R. Depression, anxiety, and stress scores were positively correlated with the NAQ-R score (r=0.52, r=0.39, and r=0.49, respectively; all p-values <0.001). Depression, anxiety, and stress subscale scores were negatively associated with PES-NWI score (r=-0.38, r=-0.27, and r=-0.39, respectively; all p-values <0.001). PES-NWI score was negatively correlated with the NAQ-R score (r=-0.50, p<0.001).

Table 5 shows bivariate associations between depression, anxiety, stress, and sample characteristics. Depression, anxiety, and stress were not significantly associated with gender, relationship status, highest nursing qualification, employment type, or place of employment (p-values>0.05). Depression, anxiety, and stress were significantly associated with the intention to leave; that is, respondents who had considered leaving nursing in the last 12 months had, on average, 3.12, 1.94, and 3.67 points more than others,

TABLE 4: PEARSON'S CORRELATIONS BETWEEN SCALES (N = 479)

	Mean	SD	1	2	3	4	5
DASS-D [1]	6.08	7.06	1				
DASS-A [2]	4.87	6.05	.64*	1			
DASS-S [3]	9.50	7.30	.73*	.72*	1		
PES-NWI Composite Score [4]	2.71	0.54	-.38*	-.27*	-.39*	1	
NAQ-R Score [5]	34.23	12.66	.52*	.39*	.49*	-.50*	1

DASS-D = DASS Depression; DASS-A = DASS Anxiety; DASS-S = DASS Stress; PES-NWI = Practice Environment Scale - Nurse Work Index; NAQ-R = Negative Acts Questionnaire - Revised

* Correlation is significant at the <0.001 level (2-tailed)

TABLE 5: BIVARIATE ASSOCIATIONS BETWEEN PSYCHOLOGICAL DISTRESS AND SAMPLE CHARACTERISTICS (N = 479)

	n	Depression Mean (SD)	Anxiety Mean (SD)	Stress Mean (SD)
Gender				
Male/other	27	6.81 (7.30)	5.78 (6.82)	8.44 (8.85)
Female	452	6.04 (7.05)	4.81 (6.00)	9.57 (7.21)
Relationship Status				
Single/other	111	6.97 (7.79)	4.92 (6.67)	9.71 (7.74)
In a relationship	51	5.96 (6.41)	6.12 (5.43)	9.76 (7.02)
Married/defacto/cohabitating	317	5.79 (6.88)	4.65 (5.91)	9.39 (7.21)
Ethnicity				
European	364	5.71 (6.82)*	4.52 (5.96)*	9.60 (7.32)
Non-European	115	7.25 (7.68)	5.97 (6.24)	9.20 (7.27)
Highest Nursing Qualification				
Undergraduate/other	365	6.25 (7.02)	5.06 (6.11)	9.70 (7.18)
Postgraduate	114	5.54 (7.20)	4.26 (5.85)	8.86 (7.68)
Employment Type				
Full time	233	6.27 (7.43)	5.04 (6.34)	9.25 (7.49)
Part-time/other	246	5.90 (6.69)	4.71 (5.77)	9.75 (7.13)
Place of Employment				
DHB	297	6.53 (7.48)	5.21 (6.25)	10.00 (7.63)
Non-DHB	182	5.35 (6.26)	4.31 (5.67)	8.69 (6.68)
Intention to Leave				
Yes	251	7.57 (7.87)***	5.79 (6.42)***	11.25 (7.67)***
No	228	4.45 (5.62)	3.85 (5.45)	7.58 (6.35)

*p<0.05 (2-tailed), **p<0.01 (2-tailed), ***p<0.001 (2-tailed)

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respectively (p-values<0.001). Depression and anxiety were also significantly associated with ethnicity; that is, respondents who were non-European had, on average, 1.54 and 1.45 points more than others. Age was negatively correlated with anxiety (r=-.24, p<.001) and stress (r=-.12, p<.05). Years employed as a nurse were also negatively correlated with anxiety (r=-.23, p<.001). Age was not correlated with depression, while years employed as a nurse were not correlated with depression or stress.

Multivariable associations between depression, anxiety, and stress (indicators of psychological distress) and workplace factors (i.e., practice environment and negative acts in the workplace) are presented in Tables 6-8. Model 1, which included only two workplace factors, explained 28.8%, 15.6%, and 26.1% of the variation in depression, anxiety, and stress, respectively. Both factors were significantly associated with

depression, anxiety, and stress. For every point increase in PES-NWI, there was a 2.11-point decrease in depression, a 1.09-point decrease in anxiety, and a 2.63-point decrease in stress, respectively (p-values<0.05). In contrast, for every point increase in NAQ-R, there was a 0.25-point increase in depression, 0.16-point increase in anxiety, and 0.22-point increase in stress (p-values<0.001). The results were similar even after controlling for age, gender, ethnicity, relationship status, years employed as a nurse, highest nursing qualification, and place of employment (Model 2 in Tables 6-8). Coefficients for depression, anxiety, stress, and PES-NWI were -1.99, -1.16, and -2.50, respectively (p-values<0.05). Coefficients for depression, anxiety, stress, and NAQ-R were 0.25, 0.16, and 0.24 respectively (p-values<0.001). Model 2 explained 30.2%, 20.4%, and 27.6% of the variation in depression, anxiety, and stress, respectively.

TABLE 6: MULTIPLE LINEAR REGRESSION COEFFICIENTS (95% CONFIDENCE INTERVAL) BETWEEN WORKPLACE FACTORS AND DEPRESSION (N = 479)

	Model 1	Model 2†
PES-NWI	−2.11 (−3.25, −0.98)***	−1.99 (−3.12, −0.85)***
NAQ-R	0.25 (0.20, 0.29)***	0.25 (0.20, 0.30)***
Age	–	0.05 (−0.02, 0.12)
Gender M/Other v. F	–	1.05 (−1.26, 3.36)
Ethnicity Euro v. non-Euro	–	−0.63 (−1.93, 0.66)
Relationship status Single/Other (v. M/D/C)	–	−0.27 (−1.55, 1.02)
In a relationship (v. M/D/C)	–	−1.14 (−3.00, 0.73)
Yrs. employed as a nurse	–	−0.07 (−0.14, −0.01)*
Highest nursing qual. UG/other v. PG	–	0.44 (−0.80, 1.69)
Place of employment DHB v. non-DHB	–	1.38 (0.26, 2.49)
Adjusted R²	0.288	0.302

† Controlled for age, gender, ethnicity, relationship status, highest nursing qualification, years employed as a nurse, and workplace type.

PES-NWI = Practice Environment Scale - Nurse Work Index
NAQ-R = Negative Acts Questionnaire - Revised
M/D/C = Married, Defacto, Cohabitating
UG = Undergraduate, PG = Postgraduate

*p<0.05, **p<0.01, ***p<0.001

TABLE 7: MULTIPLE LINEAR REGRESSION COEFFICIENTS (95% CONFIDENCE INTERVAL) BETWEEN WORKPLACE FACTORS AND ANXIETY (N = 479)

	Model 1	Model 2†
PES–NWI	−1.09 (−2.15, −0.03)*	−1.16 (−2.20, −0.13)*
NAQ–R	0.16 (0.12, 0.21)***	0.16 (0.12, 0.21)***
Age	–	−0.05 (−0.12, 0.01)
Gender M/Other v. F	–	0.85 (−1.26, 2.96)
Ethnicity Euro v. non-Euro	–	−0.27 (−1.45, 0.91)
Relationship status Single/Other (v. M/D/C)	–	−0.54 (−1.71, 0.63)
In a relationship (v. M/D/C)	–	−0.72 (−2.43, 0.98)
Yrs. employed as a nurse	–	−0.05 (−0.12, 0.01)
Highest nursing qual. UG/other v. PG	–	0.52 (−0.62, 1.66)
Place of employment DHB v. non-DHB	–	0.70 (−0.32, 1.71)
Adjusted R²	0.156	0.204

† Controlled for age, gender, ethnicity, relationship status, highest nursing qualification, years employed as a nurse, and workplace type.

PES-NWI = Practice Environment Scale - Nurse Work Index
NAQ-R = Negative Acts Questionnaire – Revised
M/D/C = Married, Defacto, Cohabitating
UG = Undergraduate, PG = Postgraduate

*p<0.05, **p<0.01, ***p<0.001

TABLE 8: MULTIPLE LINEAR REGRESSION COEFFICIENTS (95% CONFIDENCE INTERVAL) BETWEEN WORKPLACE FACTORS AND STRESS (N = 479)

	Model 1	Model 2†
PES-NWI	–2.63 (–3.83, –1.43)***	–2.50 (–3.70, –1.31) ***
NAQ-R	0.22 (0.17, 0.28)***	0.24 (0.18, 0.29) ***
Age	–	–0.04 (–0.12, 0.04)
Yrs. employed as a nurse	–	–0.03 (–0.10, 0.04)
Gender M/Other v. F	–	–0.36 (–2.79, 2.06)
Ethnicity Euro v. non-Euro	–	1.37 (–0.01, 2.73)*
Highest nursing qual. (UG/other v. PG)	–	0.39 (–0.92, 1.70)
Relationship status Single/Other (v. M/D/C)	–	–0.95 (–2.30, 0.40)
In a relationship (v. M/D/C)	–	–1.41 (–3.37, 0.55)
Place of employment (DHB v. non-DHB)	–	1.11 (–0.07, 2,28)
Adjusted R²	0.261	0.276

Controlled for age, gender, ethnicity, relationship status, highest nursing qualification, years employed as a nurse, and workplace type.

PES-NWI = Practice Environment Scale – Nurse Work Index
NAQ-R = Negative Acts Questionnaire – Revised
M/D/C = Married, Defacto, Cohabitating
UG = Undergraduate, PG = Postgraduate
*p<0.05, **p<0.01, ***p<0.001

DISCUSSION

This study showed that New Zealand RNs experience psychological distress. Additionally, the quality of the practice environment and exposure to negative behaviours in the workplace were significantly associated with psychological distress in RNs after controlling for demographic characteristics.

Psychological distress was associated with ethnicity, with non-European respondents experiencing higher mean scores for depression and anxiety. This is a unique finding as it alludes to the potential influence of social factors such as discrimination or lack of social and cultural support that disproportionately affect non-European populations working as nurses in NZ.[12,44] Although not measured in this study, non-European nurses may have experienced racism from patients, their patient's families, and colleagues. A qualitative study that included 36 internationally qualified nurses (IQNs) working in NZ found that IQNs reported witnessing overt racism from patients and their families and covert racism from colleagues who questioned their capabilities.[44]

The study also highlighted education, communication and cultural differences heightened IQN's stress and anxiety levels. Lastly, IQNs were less likely to report racist or discriminatory behaviour as they were often concerned with appearing compliant in order to integrate with the team and the healthcare organisation system.[44] Psychological distress in this study was associated with a greater intention to leave. This finding is consistent with previous studies, including research with primary healthcare nurses in Macedonia,[45] clinical nurses in Taiwan,[46] and palliative care nurses in Saudi Arabia.[47] Due to nurse shortages, targeted mental health support is needed for nurses from diverse backgrounds to retain them in the workforce. Failure to address psychological distress in nurses may exacerbate the nursing shortage and compromise the quality and safety when delivering patient care.

Like other studies, age was negatively associated with anxiety and stress, while years employed as a nurse were negatively associated with anxiety.[15,48] This finding suggests that older nurses or nurses who have worked for longer are more resilient to the effects of workplace stress. Younger or less experienced nurses may benefit from additional organisational support such as ongoing mentorship opportunities, as well as skill and leadership development workshops, to reduce psychological distress and smoother transition to practice.

Psychological distress as measured by depression, anxiety, and stress average scores in this study were somewhat consistent with previous studies. The mean scores were comparable to those of a study involving Queensland (Australia) nurses.[20] Like the current study, the study of Queensland nurses included nurses from various healthcare settings. In contrast, other studies produced higher average scores for depression, anxiety, or stress.[21,49,50] Higher mean scores could be attributed to data collected during the COVID-19 pandemic, which has resulted in increased demands on the global health workforce.[49] Higher mean scores may result from nurses working exclusively in mental health settings.[21] Psychiatric nursing is considered one of the more stressful nurse roles, with nurses often experiencing high rates of verbal and physical violence.[51] Anxiety and stress average scores were higher in a survey of 600 Vietnamese nurses.[50] Differences in average scores between this study and a previous study with Vietnamese nurses may relate to the sample of Vietnamese nurses being, on average, younger and having worked fewer years as a nurse. Differences may also result from poorer working and pay conditions experienced by Vietnamese nurses.[50] Differences in depression, anxiety and stress scores across these studies may be explained by cultural differences. Cultural differences have been shown to influence nurse outcomes in previous comparative studies.[52]

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Psychological distress in the current study was not associated with sample characteristics such as gender, relationship status, highest nursing qualification, employment type, or place of employment. This contrasts with the findings from a study involving intensive care unit (ICU) nurses in Australia and New Zealand, which showed significant associations with gender, ethnicity, age group, and country for bullying and discrimination.[12] This could be explained, in part, by the differences in sample composition. One possibility is that the inclusion of nurses from various settings might dilute the effect of variables specific to high-stress environments like the ICU. ICU nurses might face a unique set of stressors that could make them more vulnerable to factors associated with bullying and discrimination. The timing of the data collection may have also influenced the results. Data collection for the current study occurred before the COVID-19 pandemic, while the study with ICU nurses occurred during the pandemic.

To our knowledge, this is the first study using the PES-NWI and DASS-21 together in RNs. The results show that the practice environment is associated with indicators of psychological distress in NZ RNs. This finding aligns with previous studies investigating the state of the work environment and psychological distress in nurses. For instance, a study with Canadian nurses found that workplace relations, inadequate organisational support, and insufficient resourcing were associated with depression and anxiety. Data in the Canadian study was collected during the pandemic, while over 60% of nurses worked in acute care settings, and over 80% of nurses worked in urban or suburban areas.[53] A study with Chinese public hospital nurses showed depressive symptoms were associated with workplace violence, working long hours (>45 hours per week), and regular night shifts (>2 nights per week).[54] A study involving three hospitals in New York (USA) found conflict at work, lack of leadership support, unclear work assignments and unclear workplace goals were all associated with depression and anxiety in RNs.[55]

To our knowledge, this is the first study using the NAQ-R and DASS-21 together to measure the relationship between negative interpersonal behaviour and psychological distress in RNs. Negative acts in the workplace, such as bullying, intimidation and harassment, were associated with depression, anxiety, and stress. Although using different tools to measure depression and anxiety, this finding aligns with a study conducted in Bandar Abbas, Southern Iran, which found moderate positive associations between bullying and both anxiety and depression in nurses from private and public hospitals.[56]

LIMITATIONS

There are several limitations to this study. Firstly, due to a low response rate, the study's findings might not be generalisable to the entire population of New Zealand registered nurses. This means the results may not accurately reflect the experiences and perspectives of the entire population. Secondly, the available data did not allow for analysis regarding the nurses' scope of practice. This limits the ability to understand potential variations in experiences based on specific practice areas. Thirdly, the study may be susceptible to selection bias. Individuals who are feeling stressed, anxious, or bullied may have been more likely to participate, potentially leading to an overrepresentation of these experiences in the data. This could skew the overall understanding of the experiences of New Zealand registered nurses. Despite these limitations, the study provides a foundation for further research and highlights the potential challenges encountered by some New Zealand registered nurses. These limitations can be addressed in future studies by combining surveys with focus groups or interviews, which can enhance generalisability and provide a deeper understanding of nurses' experiences across different practice areas.

IMPLICATIONS FOR RESEARCH, POLICY, AND PRACTICE

Healthcare providers must prioritise modifying the work environment to address the factors contributing to nurses' psychological distress. This may include mandating safe nurse-to-patient ratios, offering flexible scheduling, guaranteeing protected breaks, mentorship programmes, and initiatives to reduce discrimination in the workplace. They must implement early intervention programmes that identify and address signs of psychological distress in nurses, with specific culturally tailored mental health resources and support for those with diverse backgrounds and experiences. Future research should examine how organisational-level strategies can reduce psychological distress in nurses.

CONCLUSION

The results show that the quality of the practice environment, including resource adequacy, the availability of individual and organisational level support, and exposure to negative acts in the workplace - such as bullying and harassment - were associated with indicators of psychological distress in RNs.

Declaration of conflicting interests: None

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