

Influences of Australian Nursing Students' Anxiety, Depression, Personality and Family Interaction on their Psychological Well-Being and Suicidal Ideation

Pi-Ming Yeh^{1*}, Lorna Moxham², Christopher Patterson³, Carolyn Antoniou⁴

1. RN, Ph.D., Associate Professor, School of Nursing and Health Professionals, Missouri Western State University, USA.
2. RN, Ph.D., Professor of Mental Health Nursing, School of Nursing, University of Wollongong, Australia.
3. RN, BN(Hons), MN (Mental Health), MACMHN, School of Nursing, University of Wollongong, Australia.
4. RN, Grad Cert HealthPD, MHLthLeadMgmt, School of Nursing, University of Wollongong, Australia.

Abstract

Objective: To examine the relationships between Australian nursing students' anxiety, depression, personality and family interaction with psychological well-being and suicidal ideation.

Participants: A sample of 201 nursing students completed a series of structured questionnaires in an Australian University.

Methods: A cross-sectional descriptive research design was used. After explanation of this study, 201 nursing students voluntarily participated. Six reliable and structured questionnaires were used to do data collection. SPSS was used for data analysis including descriptive data, Pearson Correlation, and Stepwise Multiple Regression.

Results: Anxiety and depression were positively associated with suicidal ideation and had negative relationships with psychological well-being. Positive personality and family interaction were positively associated with psychological well-being and negatively with suicidal ideation. Parents' harsh discipline had a negative relationship with the nursing students' psychological well-being.

Conclusions: Depression, personality, and positive family interaction were significant predictors of Australian nursing students' psychological well-being. Anxiety, depression, and harsh discipline were significant predictors of suicidal ideation

Corresponding Author: Pi-Ming Yeh, School of Nursing and Health Professionals, Missouri Western State University, Address: 4525 Downs Drive, St Joseph, MO 64507, USA, Telephone: (816)271-4250, Fax number: (816) 271-5849, E-mail: pimingyeh@yahoo.com.

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Introduction

It is globally recognized that nursing is a stressful occupation [1]. Nurses often account for the largest percentage of the clinical workforce [2] and their psychological well-being can impact upon the patients [3,4]. There are significant correlations between psychological distress, depression, anxiety and psychological well-being [5-7]. Therefore, it is an important topic to understand what factors influence nurses' psychological well-being. The World Health Organization (WHO) reports a 60% increase worldwide in suicide rates over the last 45 years [8]. Extreme feelings of stress could lead to suicidal ideation and attempted suicide [9].

Research indicates that some students experience feelings of anxiety, hopelessness and depression [10]. Especially nursing students might have high levels of stress [11-16]. In Melissa-Halikiopoulou's study, 142 Greek nursing students found that 10% of participants reported suicidal thoughts and 1.4% stated that they might attempt suicide if they had the opportunity [17].

Mental illness is a central topic in Australia [18]. One in five Australian aged 16-85 years experienced a mental disorder in 2010 [7]. The most prevalent mental health disorders were found to be anxiety (14.4%), substance use (5.1%) and affective disorders (6.2%), including depressive disorders (4.1%) [7].

There are 1.2 million students with higher education in Australia; three out of five (61%) are aged 15-24 years [7,19, 20]. Females aged 16-24 years report the highest prevalence of suicidality and anxiety compared to any other age group [7]. There are some barriers to health seeking behaviours among this age group, so their seeking assistance is an issues [21]. Some studies indicate that Australian University students

experience higher levels of psychological distress than the general population of the same age [22, 23].

Is there any relationship between personality and psychological well-being? Personality is developed by biological temper, family interaction and cognitive learning [24]. When people experience stress, anxiety or depression, according to personality, they use different coping strategies that in turn result in different outcomes such as psychological well-being or suicidal ideation [14, 24, 25]. During this process, spiritual well-being appears to be a mediating factor which influences the outcome variables [24, 26-28].

How an individual deals with the stress caused by exposure to harsh parenting or with the significant stressors that are intrinsic to the role of nursing is mediated by personality. Personality and emotional stability were associated with nursing students' psychological well-being [29].

Positive family interaction also provides a stable framework within which the individual is safe to make important decisions, debrief and feel supported. Individuals who had positive family interactions (eg., communication and involvement) reported lower rates of suicidal behaviours [24, 30]. Conversely, a negative family interaction, such as harsh parenting, has a negative impact on people's psychological well-being and increases the risk of suicidal ideation [24, 31]. Power assertive parenting and high levels of physical punishment also decrease psychological well-being [32, 33]. Therefore, the purpose of this study was to examine the relationships between Australian nursing student's anxiety, depression, personality and family interaction on their psychological well-being and suicidal ideation.

Methods

Sample, Setting, and Data Collection

The convenience sample consisted of 201 Bachelor of Nursing (BN) students inclusive of 20 (10%) males and 181 (90%) females. The mean age was 25.80 yrs ($SD = 8.43$). The sample size of 201 participants was determined by the Power Analysis Computer Software and the criteria of Alpha at 0.05 and power (1-Beta) at 0.80" [34]. After IRB approval of this study, the researchers explained this study to nursing students and, if they were willing to participate, they were asked to fill out the informed consent form and the questionnaires. Participants returned the questionnaires in a locked box in the nursing department.

Instruments

Data were collected using six instruments, all of which were selected for their reliability and validity. All of the instruments had good internal consistency. Their Cronbach's Alpha values were greater than 0.7 (Table 1).

Psychological Well-Being Scale (PWBS):

Participants' psychological well-being was measured using the 18-item PWBS [35]. Six concepts (autonomy, environmental mastery, purpose in life, personal growth, positive relations with others, and self-acceptance) were assessed. Items were scored on a six-point Likert-type scale ranging from (1) strongly disagree to (6) strongly agree. Higher scores indicate more positive psychological well-being. Validity of the scale was examined by confirmatory factor analyses [36]. In a previous study, internal consistency for each subscale, based on a sample of 321 adults (age range 19.53 - 74.96 years), revealed a high degree of reliability with Cronbach's alphas ranging from 0.83 to 0.91 [35]. The Cronbach's Alpha was 0.81 in this study (Table 1).

Suicidal Ideation: The Brief Screen for Adolescent Depression Scale (BSADS) was developed by the Signs of Suicide Project [37]. The BSADS was used to measure participants' suicidal ideation. There were seven questions with items scored on a Yes or No basis. Scores from 0 to 2 indicated no evidence of depression; 3 indicated some evidence of depression and scores of 4 or greater indicated the person should talk to a mental health professional. The Cronbach's Alpha for the BSADS was 0.73 in this study (Table 1).

Anxiety was measured by the Hamilton Anxiety Scale (HAS) [38]: 42 questions were scored on a five-point scale ranging from (0) Not Present to (4) Very Severe. The higher the score, the higher the level of anxiety. The Cronbach's Alpha for the HAS was 0.95 in this study (Table 1).

Depression was measured using the Zung Depression Scale (ZDS) [39]: 20 questions were scored on a four-point scale ranging from (1) None or Little to (4) Most or All. Higher scores indicate higher levels of depression. The Cronbach's Alpha for the ZDS was 0.80 in this study (Table 1).

Personality characteristics were measured using the Big Five Personality Test developed by Goldberg [40]. The instrument has five subscales: Confidence, Agreeableness, Conscientiousness, Emotional Stability and Intellect. Fifty items were scored on a five-point scale. Higher scores indicate more positive personality characteristics. The Cronbach's Alpha for this instrument was 0.88 in this study (Table 1).

Family Interaction was measured using the Iowa Family Interaction Rating Scales (IFIRS) [41]. The IFIRS was used to measure parenting attributes. There were two parts: the positive rearing attitude and the negative rearing attitude. The total was 29 questions. The positive rearing attitude part has 21 questions including

Table 1. The Cronbach's alpha of instruments ($N = 201$)

Variables	Instruments	Items	Cronbach's Alpha	Range of Scores
Anxiety	Hamilton Anxiety Scale (Hamilton, 1969)	42	0.95	0-168
Depression	Zung Depression Scale (Zung, 1976)	20	0.8	20-80
Personality	Personality scale (Goldberg, 1999)	50	0.88	50-250
Family Interaction	Iowa Family Interaction Rating Scales (Melby et al., in 1998)	29	Positive: 0.94 Negative: 0.83	29-145
Psychological Well-Being	Psychological Well-Being Scale (Ryff, 1989)	18	0.81	18-108
Suicidal Ideation	Brief Screen for Adolescent Depression	7	0.73	0-7

five subscales (Child Monitoring, Inductive Reasoning, Communication, Positive Reinforcement and Involvement). The negative rearing attitude part has 8 questions including the Harsh Discipline and Inconsistent Discipline subscales. Items were scored on a five-point scale ranging from (1) Never to (5) Always. For the positive rearing attitude subscales, higher scores indicate more positive rearing attitude. The Cronbach's Alpha was 0.94 for the positive rearing attitude subscales in this study. For the negative rearing subsection, higher scores indicate the likelihood of harsh discipline. The Cronbach's Alpha in this study was 0.83 for the negative rearing subsection (Table 1).

Data Analysis

Data analyses were conducted using the Statistic Package for Social Sciences (SPSS) PC + Version 20.0. Descriptive statistics (mean, SD, range, and percentages) were used to describe the study sample and the main variables. The Cronbach's alpha of the instruments was examined in this study. Pearson's Correlation was used to examine the relationships between variables. Stepwise Multiple Regression was used to examine the significant predictors of psychological well-being and suicidal ideation.

Results

Sample Characteristics

Most participants were female ($n = 181$, 90%) and single ($n = 130$, 64.7%). One hundred and fifty-seven (78.1%) were Australian. Ninety-six (47.8%) were Christian and 81 (40.3%) were not religious. Participants' ages ranged from 18 to 61, with a mean of 25.80 years ($SD = 8.43$). The monthly income for 85 (42.3%) participants was less than US\$1,000.00 (Table 2).

Descriptions of major variables

Overall, participants expressed low levels of anxiety ($M = 35.61$, $SD = 21.93$), medium levels of depression ($M = 38.48$, $SD = 8.09$), and medium-high levels of positive personality ($M = 171.80$, $SD = 18.43$). They perceived medium-high levels of positive family interaction ($M = 74.20$, $SD = 16.18$) and medium-low levels of harsh discipline ($M = 8.22$, $SD = 3.39$). Therefore, participants expressed medium-high levels of psychological well-being ($M = 82.03$, $SD = 11.01$) and low levels of suicidal ideation ($M = 1.98$, $SD = 1.79$) in this study (Table 3).

According to Pearson's correlation, Australian

Table 2. Demographic Characteristics of Nursing Students (*N* = 201)

Variables	n	%	M	SD
Gender				
Male	20	10		
Female	181	90		
Age (18-61 years)			25.80	8.43
Anxiety (0-140)			35.61	21.93
Depression (22-69)	10	5	38.48	8.09
Race: Australian	157	78.1		
Asian	18	9		
African	7	3.5		
Other	13	6.5		
Marriage				
Single	130	64.7		
Married	38	18.9		
de facto	20	10		
divorced	10	5		
Religion				
Christian	96	47.8		
Not Religious	81	40.3		
Income per month				
Below \$1000	85	42.3		
1000-1999	65	32.3		
2000-2999	28	13.9		
3000-3999	14	7		

Table 3. Descriptions of the main variables (*N* = 201)

Main Variables	M	SD	Minimum	Maximum
Anxiety	35.61	21.93	0	140
Depression	38.48	8.09	22	69
Personality	171.8	18.43	120	233
Positive Family Interaction	74.2	16.18	21	105
Harsh Discipline	8.22	3.39	4	20
Psychological Well-being	82.06	11.01	45	107
Suicidal Ideation	1.98	1.79	0	7

nursing students' psychological well-being was significantly associated with anxiety ($r = -0.540, p < 0.001$), depression ($r = -0.647, p < 0.001$), personality ($r = 0.642, p < 0.001$), positive family interaction ($r = 0.362, p < 0.001$) and parents' harsh discipline ($r = -0.181, p < 0.01$). Suicidal ideation was significantly associated with anxiety ($r = 0.590, p < 0.001$), depression ($r = 0.684, p < 0.001$), personality ($r = -0.372, p < 0.001$), positive family interaction ($r = -0.182, p < 0.01$) and psychological well-being ($r = -0.480, p < 0.001$).

When the participants' scores of anxiety and depression decreased, their scores of psychological well-being increased and their scores of suicidal ideation decreased. When the participants' scores regarding positive personality and positive family interaction increased, their scores of psychological well-being increased and their scores of suicidal ideation decreased. Results indicated that students exposed to harsh discipline had a decreased level of psychological well-being.

Predictors of Psychological Well-being and Suicidal Ideation

Stepwise multiple regression analysis was used to examine the degree to which psychological well-being was predicted by the five independent variables. As

shown in Table 4, the model variables accounted for 58% of the psychological well-being variance. Lower scores of depression (Beta = -0.427, $p < 0.001$), higher scores of positive personality (Beta = 0.395, $p < 0.001$), and higher scores of positive family interaction (Beta = 0.127, $p < 0.01$) were found to predict significantly higher psychological well-being.

Stepwise multiple regression analysis also examined the degree to which suicidal ideation was predicted by the five independent variables. Table 4 indicates how the model variables accounted for 49.1% of the suicidal ideation variance. Higher scores of depression (Beta = 0.532, $p < 0.001$) and higher scores of anxiety (Beta = 0.215, $p < 0.001$) were found to predict significantly higher scores of suicidal ideation.

Discussion

Overall, participants expressed low levels of anxiety, medium levels of depression, and medium-high levels of positive personality. They perceived medium-high levels of positive family interaction and medium-low levels of harsh discipline. Therefore, participants expressed medium high levels of psychological well-being and low levels of suicidal ideation. These results are unique and different from previous studies. Other studies indicate Australian younger adults have higher levels of depressive and anxiety symptoms compared to

Table 4. Stepwise Multiple Regression: The predictors of Australia nursing students' psychological well-being and suicidal ideation ($N = 201$)

Variables	Psychological Well-being		Suicidal Ideation	
	Beta	t	Beta	t
Anxiety			0.215	3.00***
Depression	-0.427	-8.05***	0.532	7.45***
Personality	0.395	7.23***		
Positive family interaction	0.127	2.58**		
	$R^2 = 0.58$		$R^2 = 0.491$	
	F(df= 3, 197)= 89.298***		F(df= 2, 198)= 95.478***	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (2 tailed).

older age groups of Australians [45]. Previous studies also indicate these younger adults have low level of well-being and high levels of stress, anxiety, hopelessness, and depression [10, 45].

Other unique findings are the predictors of psychological well-being and suicidal ideation. They will be discussed as follows.

Predictors of psychological well-being

There was a significantly negative relationship between participants' depression and psychological well-being. Personality and family interaction were positively associated with participants' psychological well-being.

Depression

Previous studies showed significant correlations between psychological distress, depression, and anxiety with psychological well-being [5-7]. The results of this study support the findings of previous studies [43-46]. Bhullar et al. concluded that a persons' psychological well-being profile can be used as a predictor of depression, since since the absence of psychological well-being represents a risk factor in developing depression, and vice versa [44, 46].

Personality

In this study, participants had medium-high levels of positive personality, which were positively associated with psychological well-being. Family interaction influences the development of personality [24]. Participants perceived medium-high levels of positive family interaction and medium-low levels of harsh discipline. These results could explain why this group of nursing students had medium -high levels of positive personality. People with positive personality use problem focused coping strategies that are related to increasing psychological well-being and decreasing suicidal ideation [14, 24, 25]. Therefore, the results of this study are consistent with previous studies in which

personality was associated with nursing students' psychological well-being [29].

Positive family interaction

Participants perceived medium-high levels of positive family interaction and medium-low levels of harsh discipline. The family interaction was positively associated with participants' psychological well-being. This result is consistent with previous studies in which positive family interaction helped people feel safe and supported, so they have higher psychological well-being than people who perceived negative family interaction such as harsh parenting [24, 30, 31]. A negative relationship between psychological well-being and power assertive parenting and high levels of physical punishment was also documented [32, 33].

Predictors of suicidal ideation

Depression and anxiety

There were two significant predictors of suicidal ideation for nursing students in this study: depression and anxiety. The results are consistent with previous studies [5-7,14, 24, 25]. Although participants expressed low levels of anxiety and medium levels of depression, their anxiety and depression still had positive relationships with suicidal ideation. This result is also consistent with previous studies in China [47] and in Vietnam [48]. Yeh and Chiao indicated that the following factors decreased USA college students' anxiety and depression: spiritual well-being, parents using communication, involvement, and inductive reasoning, and Disengagement problem focus coping strategies [49].

Interestingly, our results display a divergence from the contemporary understandings of the significant number of University students who are highly distressed and are experiencing high levels of anxiety and depression [4, 11, 17, 22, 23]. As a cohort, our

participants indicated low levels of anxiety and medium levels of depression. It is likely that this is related to the concurrent medium to high levels of psychological well-being. Parents' communication and involvement increased Australian nursing students' psychological well-being. This result is consistent with the results of Yeh and Chiao in the USA college students [24].

Limitations

This study has three main limitations. First, the cross-sectional design does not provide insights on the nursing students' psychological distress over time. Second, the sample was recruited from an Australian University, so the generalizability of this study is limited. Third, the participants in this study were voluntary and thus the results only refer to those who are willing to share their experiences.

Conclusions

Nursing students require positive psychological well-being to cope with their work. Psychological well-being enhances sound clinical decision making and the development of mature, sensitive and therapeutic nurse-patient relationships. It also enhances the nurse's ability to successfully communicate with patients, their families, and members of the multidisciplinary team. Given that nursing students are expected to be able to work within rapidly changing and stressful environments, caring for their psychological well-being is important. Identifying factors that influence psychological well-being and suicidal ideation means that strategies can be developed to enhance positive mental health.

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