



Examining the effect of moral resilience on moral distress

Nursing Ethics
2023, Vol. 0(0) 1–15
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DOI: 10.1177/09697330231177420
journals.sagepub.com/home/nej



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Abstract

Aims: The study aims to test the Turkish validity and reliability of the Rushton Moral Resilience Scale (RMRS) and examine the effect of moral resilience on moral distress.

Background: Moral distress is a phenomenon that negatively affects health workers, health institutions, and the person receiving care. In order to eliminate or minimize the negative effects of moral distress, it is necessary to increase the moral resilience of nurses. Moral resilience involves developing systems that support a culture of ethical practice in healthcare and aim to increase an individual's capacity to cope with moral challenges.

Methods: A methodological and descriptive-predictive study design was adopted. Sociodemographic Information Form, Measure of Moral Distress – Healthcare Professionals (MMD-HP), and Rushton Moral Resilience Scale were used to collect data from the nurses. A total of 255 clinical nurses were recruited.

Ethical considerations: Hacettepe University's non-interventional ethics committee approved the study's protocol and informed consent was obtained from the participants.

Results: The original four-factor structure of the scale was tested with confirmatory factor analysis, and the index values were evaluated and found at an acceptable level. The Cronbach Alpha coefficient of the scale was found to be 0.826. Moral resilience predicted moral distress total, intensity, and frequency levels. A moderate and weak relationship was found in the negative between all sub-dimensions of moral distress and moral resilience.

Conclusions: The Rushton Moral Resilience Scale Turkish version showed good psychometric properties. Moral resilience has a reducing effect on moral distress. Young nurses who have less experience are at risk because they have lower moral resilience levels, while nurses working in intensive care units are at risk because of their high moral distress levels. A healthy workplace can be created by developing specific approaches to improve moral resilience in reducing the impact of moral distress in the healthcare environment.

Keywords

Ethics, moral distress, moral resilience, nursing, Turkey, quantitative

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Introduction

Health care is a specialized field because the material of health care is human, there is a relationship based on the theme of life and death between the provider and client, ranging from health protection to end-of-life care.¹ Therefore, it is inevitable that health professionals in this field will encounter ethical difficulties while carrying out their work.² In particular, nurses face many ethical situations in daily practices, such as managing painful treatments and ensure of the quality of life, managing end-of-life care, and working with life/death.^{3,4} These ethical situations have the potential to cause conflict with themselves, other health professionals and the obligatoriness of the healthcare system.^{5,6} Because in these ethical situations, nurses may have difficulty in deciding what the right action is, may not be able to reach a consensus with the team about the action they believe is right, or may not be able to perform the desired action for systemic reasons. Conflicts in determining the right thing to do and difficulties in taking action in this direction can result in moral problems.^{1,2,7} When the nurses cannot act according to their moral judgment to solve these moral problems, they feels their moral integrity is under threat.^{8,9} This situation is referred to as moral distress, which negatively affects nurses physically, spiritually, and psychosocial in the literature.

Background

Jameton first described moral distress in 1984: “Moral distress arises when one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action.”¹⁰ In addition, the American Nurses Association (2015) states that moral distress is defined as “what makes it nearly impossible to do the right thing because of institutional, procedural, or social constraints, even though the action is considered morally right; a situation that threatens core values and integrity.”¹¹ In this context, moral distress can be defined as the distress that occurs in a situation that threatens individual value and moral integrity due to the inability to act due to external factors that prevent the action thought to be right. Also, moral distress often occurs when there are conflicting opinions among healthcare providers, patients, and their families, about the best course of action for healthcare delivery. It also negatively affects the health worker,^{12,13} health institutions, and the person receiving care.^{14–16} To eliminate or minimize these negative effects of moral distress, it is necessary to increase the moral resilience of nurses by focusing on clinical practice, education, policy, and research.^{17,18}

Resilience is an innate strength, present to some degree in all people, that enables a person to cope with and grow from stressful or negative experiences.^{19,20} On the other hand, moral resilience emerges as an concept in navigating used to reduce the impact of the stressor on the individual when faced with situations that cause moral distress in clinical settings.^{21–23} There is no single agreed definition of moral resilience. Rusthon moral resilience is “an individual’s capacity to maintain or re-establish integrity in response to moral complexity, confusion, distress, or setbacks.” has been defined.¹⁸ Moral resilience generally includes developing systems that support a culture of ethical practice in health care and aim to increase and gain the individual’s capacity to cope with moral challenges.^{1,24} However, this does not mean that moral resilience only includes the processes of coping with the moral situations encountered.²³ It also allows them to gain new perspectives in the face of ethical challenges, find meaning, maintain their own beliefs while remaining open and flexible to the beliefs and values of others, and increase their confidence in their capacity to respond effectively to ethical challenges.¹⁸ Therefore, measuring moral resilience, which is very important in protecting from the destructive effects of moral distress, and understanding its relationship with moral distress more deeply can be an essential starting point for reducing moral distress.

When examined in the literature, a limited number of studies examine the relationship between moral distress and moral resilience.^{23,25–27} In these studies, measurement tools measuring psychological resilience were used. It has been observed that the studies using the measurement tool that explicitly measures moral

resilience were carried out by Rushton and her team after 2021. The only measurement tool developed to measure moral resilience in the current literature is the “Rushton Moral Resilience Scale (RMRS),” developed by Heinze et al. (2021).⁵ The study has two aims; a) testing the Turkish validity and reliability of the Rushton Moral Resilience Scale and b) examining the effect of moral resilience on moral distress.

Method

It is a methodological and descriptive-predictive study. Descriptive predictive studies identify variables and estimate the variance of one or more variables based on the variance of another variable.²⁸ The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist was used to report the study.

Data collection/sample and setting

The research was carried out between October 2021 and April 2022. Convenience sampling was used in the study. The sample to be selected from the universe is the non-random sampling method in which the researcher is determined in accordance with the criteria.²⁹ The research population consists of nurses who are members of national nurse associations. First, research permission was applied to national nursing associations. The research link was shared with the associations that gave permission and announced to the association members. Scale validity and reliability studies are expected to reach 5–30 times the number of scale items in determining the sample size.³⁰ The measurement tool consisting of 17 items used in the research aimed to reach 15 participants ($17 \times 15 = 255$ participants) per item. For this reason, the first 255 nurses, who were reached through national nursing associations and filled out the online questionnaire, formed the study sample. Inclusion criteria for the study: (1) working with patients for at least 6 months and (2) working as a clinical nurse. The study did not include the nurses who did not directly participate in patient care, such as manager nurses, nurses who are responsible for in-service education, or infection control nurses.

Instruments

“Sociodemographic Information Form,” “Measure of Moral Distress – Healthcare Professionals (MMD-HP),” and “Rushton Moral Resilience Scale” were used to collect data from the participants.

Sociodemographic information form

It consists of seven questions questioning the participants’ sociodemographic characteristics, work experience, and education on ethical issues.

Rushton moral resilience scale

It was developed by Heinze et al. to measure an individual’s capacity to maintain or re-establish their integrity in response to moral challenges.⁵ The total Cronbach’s alpha value of the scale was 0.84. The statements in this 4-point Likert-type questionnaire consisting of 17 statements are evaluated between “1” (I do not agree at all) and “4” (I completely agree). The scale consists of four subscales: 1) Response to Moral Challenges (2, 4, 5, 8, and 14); 2) Personal Integrity (1, 6 and 7); 3) Relational Integrity (10, 11, 13, 15, and 16); and 4) Moral Efficacy (3, 7, 9 and 12). Items 2, 4, 5, 6, 8, 10, 13, 14, 15, and 16 are reverse coded. The total score varies between 17 and 68. The scale does not have a cut point; the higher the score on the scale, the higher the moral resilience.

Measure of moral distress—healthcare professionals

Epstein et al. developed in 2019 to determine the moral distress levels of health professionals, and the Cronbach alpha value was calculated as 0.93.³¹ The scale was adapted into Turkish by Kovancı and Atlı Ozbas in 2022 and the Cronbach alpha value was calculated as 0.94.³² The scale consists of 27 items and four sub-dimensions: F1: system-level root causes, F2: clinical root causes, F3: team-level root causes (team pressure), and F4: team-level root causes (poor communication). The scale measures the intensity and frequency of MD in a 5-point Likert type in the form of two columns. Each frequency and intensity dimension obtains a score in the range of 0–108. On the other hand, the total score of the scale in the range of 0–432 points is obtained by multiplying the frequency and discomfort scores of each item. The scale does not have a breakpoint, the higher the score on the scale, the higher the moral distress.

Validity and reliability

The translation-back translation technique was used to ensure the language translation of the RMRS.³³ First, the English form of the scale was translated into Turkish by two academic nurses who are experts in nursing and have a command of Turkish and English. Then, the scale was checked by a Turkish language expert in terms of meaning and grammar. The scale, which was controlled and translated into Turkish, was translated back into English by two academic nurses who were fluent in English. Later, an English language expert checked the scale translated into English for meaning and grammar. After the necessary arrangements were made, the content validity of the RMRS was completed using the Davis technique and the content validity index (CVI). For content validity, the scale was submitted to the opinion of eight nursing and two medical ethicists. The content validity index was calculated as 0.92. Then, Confirmatory Factor Analysis (CFA) was used to evaluate the construct validity of the RMRS. The scale's reliability was assessed with internal consistency analysis (Cronbach's alpha coefficient) and item analysis.

Data analysis

IBM SPSS (Statistical Package for Social Sciences) Version 23.0 and IBM AMOS (Analysis of Moment Structures) Version 23.0 statistical programs were used to analyze the data. The normal distribution of the data was tested with the Shapiro-Wilk test of normality, which was determined to show normal distribution. In addition, percentage, frequency, min-max values, mean, and standard deviation statistics were used to analyze descriptive data. In the evaluation of CFA, the Maximum Likelihood Estimation method and chi-square (χ^2 /degree of freedom (df), Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Comparative Fit Index (CFI), Standardized Root Mean Square Residual (SRMR), and root mean square error of approximation (RMSEA) fit indices were used. Student *t* test and One-Way ANOVA analysis were used to determine whether the participants' moral resilience and moral distress levels differed according to their sociodemographic characteristics. In addition, the Levene test was used to examine whether the variances were homogeneous to determine the appropriate *t/F* values to be used in comparisons. While Pearson Correlation analysis was used to explore the relationship between normally distributed continuous variables, the predictor of moral resilience on moral distress levels was estimated using multiple regression analysis.

Ethical consideration

Written permission was obtained from the scale author via email before the RMRS validity and reliability study was conducted. The Hacettepe University's non-interventional ethics committee approval (GO 21/1092) was obtained for the research. The written application was made to the national nurse associations, and

permission was obtained. Informed consent was obtained from the participants through the section attached to the online form. The principles of the Helsinki Declaration were considered when conducting the study.

Results

Sample characteristics

The mean age of the participants was 34.5 ± 9.1 years (range 22–59), and the professional working year was 12.6 ± 10.1 years (range 1–40). Of the participants, 85.1% were female, 51.4% were married, 58.9% had a bachelor's degree, 41.2% worked in internal clinics, and 52.2% received undergraduate and postgraduate training in ethical issues.

Validity and reliability results

Before evaluating the construct validity of the Rushton Moral Resilience Scale, Kaiser Meyer Olkin (KMO) and Bartlett tests were used to determine the suitability of the data for factor analysis and the adequacy of the sample size. The KMO value was found to be 0.804, and Bartlett's test (1553.501, $p < 0.000$) and the data were suitable for factor analysis. The original four-factor structure of the RMRS was tested with CFA. In the study, it was found that the four-factor structure of the RMRS and the fit index values of the CFA were at an acceptable level after appropriate modifications (Table 1).^{34,35} The path diagram of the factors and items of the scale is presented in Figure 1.

Table 2 presents the results of item means, standard deviations, item, and total correlation values, and Cronbach's α with deleted. The Cronbach Alpha coefficient of the RMRS was found to be 0.826 for the total scale, responses to moral adversity 0.753, personal integrity 0.550, moral efficacy 0.622, and relational integrity 0.768 for its sub-dimensions. This result shows that the internal consistency of the scale is at an acceptable level. The item-total correlation coefficients of my items on the scale range from +0.256 to +0.754. Accordingly, it was determined that the discrimination coefficients of all the items in the scale and the correlation coefficients with the whole scale were at an acceptable level. In addition, when any item was removed from the scale, it did not cause a significant increase in the Cronbach α coefficient. The items with the lowest moral resilience scores of the participants are item 6, "I find it challenging to implement the decisions of others when it threatens my values," and item 5, "After facing a challenging ethical situation, lingering distress weighs me down" (Table 2).

Comparison of sociodemographic characteristics with research variables

The nurses' demographic characteristics and mean scores on the moral resilience and moral distress scales were compared using the student's t and ANOVA tests. The results are presented in Table 3. A significant

Table 1. Confirmatory factor analysis results.

Indexes	χ^2/SD	GFI	AGFI	CFI	SRMR	RMSEA
Model	2.317	0.906	0.855	0.912	0.081	0.079
Modification model	2.027	0.929	0.875	0.937	0.075	0.070
Good fit values/ acceptable values	<2/<5	0.90–0.95/0.95–0.99	0.85–0.90/0.90–0.99	0.90–0.95/0.95–0.99	<0.05/<0.08	<0.05/<0.10

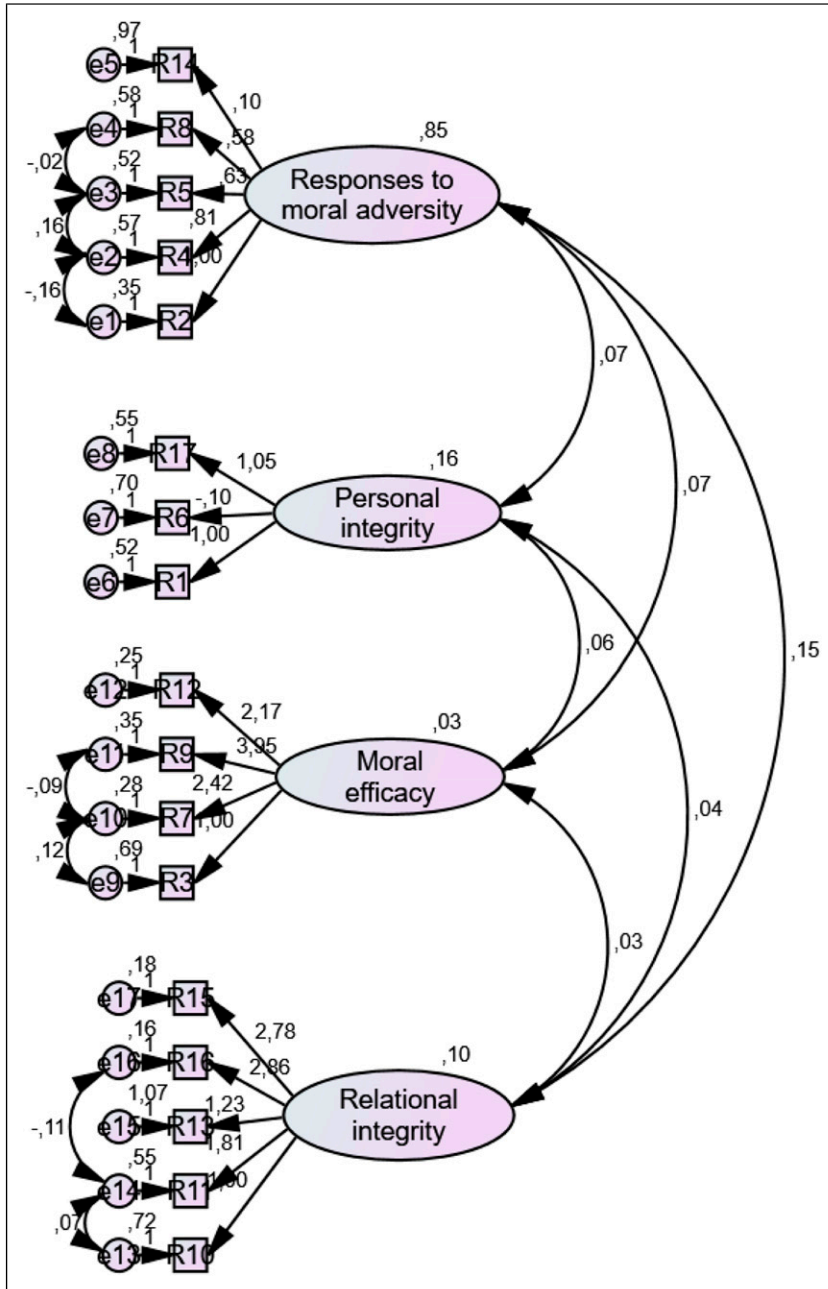


Figure 1. The path diagram of the Rushton moral resilience scale.

difference was found between age, the working year, gender, clinic, and moral resilience total score and dimensions ($p < 0.05$). In this direction, it was found that younger nurses with less working years and who work in intensive care clinics have lower moral resilience levels than other groups. In addition, there was a statistically significant difference between moral distress total, frequency, intensity scores, age, years of

Table 2. Item means, standard deviations, item, and total correlation values, and Cronbach's α with deleted.

Items	Mean (SD)	Item-total correlations	Cronbach's α with deleted
1. In my professional role, my choices and behaviors consistently reflect my values	3.38 (0.85)	0.331	0.825
2. Difficult ethical situations leave me feeling powerless. (R)	2.18 (1.12)	0.521	0.805
3. I voice my ethical concerns in a way that others take seriously	3.37 (0.89)	0.273	0.829
4. I am overwhelmed by persistent ethical conflicts. (R)	2.12 (1.10)	0.536	0.809
5. After facing a challenging ethical situation, lingering distress weighs me down. (R)	1.79 (0.94)	0.535	0.813
6. I find it challenging to implement the decisions of others when it threatens my values. (R)	1.45 (0.82)	0.339	0.821
7. When I am confronted with an ethical challenge, I am able to articulate the ethical conflict	3.51 (0.72)	0.414	0.820
8. When a challenging ethical situation can't be resolved, I find myself "going through the motions" in my job. (R)	1.82 (0.98)	0.482	0.809
9. I Can think clearly when confronting an ethical challenge, even when I feel pressured	3.13 (0.96)	0.444	0.813
10. When others criticize my opinions, I compromise my values. (R)	3.28 (0.92)	0.282	0.818
11. When faced with a difficult ethical challenge, I find myself doing or saying things that I later regret. (R)	3.08 (0.95)	0.493	0.806
12. I am confident in my ability to reason through ethical challenges in my professional role	3.60 (0.63)	0.317	0.820
13. I would rather avoid conflict with those who have more authority than I do than act in accordance with my values. (R)	2.96 (1.13)	0.318	0.824
14. When confronted with an ethical challenge, I push myself beyond what is healthy for me. (R)	1.99 (0.85)	0.256	0.831
15. I tend to be distracted by others strong emotions when ethical conflicts occur. (R)	3.07 (1.01)	0.754	0.803
16. My fear can cause me to act in a way that compromises my values. (R)	3.05 (1.05)	0.729	0.802
17. No matter the situation I do what is consistent with my values	3.17 (0.90)	0.329	0.823

R: These items were reverse coded. All items were coded so that higher scores indicated higher moral resilience.

employment, and educational status ($p < 0.05$). It was found that younger nurses with less working years and postgraduate education had higher levels of moral distress than the other groups. In addition, a significant difference was found between moral distress frequency, intensity scores, and marital status. Single nurses were found to have higher levels of moral distress than married ones ($p < 0.05$).

The relationship between moral resilience and moral distress

A moderate and weak relationship was found in the negative direction between all sub-dimensions of moral distress and all sub-dimensions of moral resilience (Table 4). These findings indicate that as moral resilience increases, moral distress will decrease. In the study, moral resilience was moderately high (2.76 ± 0.48). In contrast, responses to the moral adversity sub-dimension were found to be lower than other sub-dimensions (1.87 ± 0.73). The moral distress intensity (1.92 ± 0.76) and frequency (1.92 ± 0.77) of the participants were moderate. In addition, the system root cause sub-dimension is the primary root cause of moral distress (I: 2.18 ± 0.98 , F: 2.17 ± 0.96).

Table 3. Comparison of sociodemographic characteristics with variables.

	Moral resilience total score		Moral distress total score		Moral distress frequency score		Moral distress intensity score		
	n	$\bar{x} \pm SS$ t/F (p)	$\bar{x} \pm SS$ t/F (p)	$\bar{x} \pm SS$ t/F (p)	$\bar{x} \pm SS$ t/F (p)	$\bar{x} \pm SS$ t/F (p)	$\bar{x} \pm SS$ t/F (p)		
Working of year									
0–2 years ^a	53	2.60±0.43	3141 (0.014) a-b,c,d	7.08±2.42	4038 (0.007) a-b,c,d	2.64±0.61	4281 (0.006) a-b,c,d	2.52±0.71	3467 (0.017) a-b,c,d
3–5 years ^b	35	2.77±0.39		6.80±3.38		2.35±0.76		2.35±0.80	
6–10 years ^c	36	2.82±0.69		5.73±3.50		1.99±0.84		2.03±0.88	
11 + years ^d	131	2.86±0.45		4.95±3.62		1.78±0.94		1.82±0.99	
Gender									
Female	217	2.71±.44	–3341 (0.001)	5.38±3.40	0.413 (0.680)	1.93±0.86	.217 (0.829)	1.97±.93	0.148 (0.882)
Male	38	3.00±.51		5.13±3.42		1.89±0.86		1.94±.83	
Marital status									
Single	92	2.76±.43	.230 (0.818)	5.64±3.11	1.366 (0.173)	2.04±0.76	1.055 (0.182)	2.17±.82	1.856 (0.155)
Married	112	2.75±.46		5.06±3.64		1.82±0.93		1.86±.88	
Educational status									
Bachelor's degree	148	2.78±.48	–1.317 (0.189)	4.98±3.32	–2290 (0.023)	1.82±.87	–2715 (0.007)	1.85±.93	–2.587 (0.008)
Postgraduate	91	2.81±.48		5.99±3.45		2.11±.80		2.16±.83	
Working clinic									
Internal clinic	105	2.78±0.48	4.632 (0.004) c-a,b,d	5.25±3.52	1.516 (0.211)	1.90±.88	1.778 (0.152)	1.97±.92	1.318 (0.269)
Surgery clinic	38	2.96±0.44		4.64±3.39		1.69±.91		1.71±.99	
Intensive care unit	82	2.62±0.48		5.41±3.01		1.97±.77		2.01±.97	
Emergency	30	2.73±0.48		6.38±3.86		2.16±.91		2.11±.91	
Ethics training status									
Undergraduate	66	2.71±0.44	1.288 (0.278)	5.87±3.26	1.765 (0.173)	2.08±0.82	3.034 (0.059)	2.13±0.96	2.739 (0.112)
Postgraduate	56	2.70±0.44		4.71±3.34		1.78±0.85		1.84±0.91	
Both	133	2.80±0.45		5.35±3.47		1.92±0.87		1.93±0.91	

a: Internal Clinic.

b: Surgery Clinic.

c: Intensive Care Unit.

d: Emergency.

Table 4. Correlations between moral distress and moral resilience. Means and standard deviations.

Variables	Mean (SD)	Moral resilience total score	F1-responses to moral adversity	F2-personal integrity	F3-moral efficacy	F4-relational integrity
MDT	5.34 (3.40)	-0.387**	-0.346**	-0.234**	-0.192**	-0.317**
MDI	1.92 (0.86)	-0.415**	-0.373**	-0.253**	-0.224**	-0.324**
MDF	1.96 (0.91)	-0.424**	-0.377**	-0.271**	-0.231**	-0.330**
PS	6.67 (4.14)	-0.357**	-0.312**	-0.261**	-0.163**	-0.287**
RC	5.45 (3.68)	-0.366**	-0.334**	-0.208**	-0.140*	-0.323**
PT (TP)	5.07 (3.88)	-0.412**	-0.346**	-0.253**	-0.244**	-0.334**
PT (PC)	5.30 (3.97)	-0.272**	-0.256**	-0.141*	-0.164*	-0.203**
PSF	2.17 (0.96)	-0.394**	-0.348**	-0.281**	-0.196*	-0.308**
PS-I	1.93 (0.88)	-0.392**	-0.356**	-0.226*	-0.167*	-0.337**
RC-F	1.74 (0.98)	-0.444**	-0.383**	-0.281**	-0.272**	-0.340**
RC-I	1.84 (0.98)	-0.293**	-0.280**	-0.145*	-0.180*	-0.215**
PT (TP)-F	2.18 (0.98)	-0.399**	-0.359**	-0.278**	-0.208**	-0.303**
PT (TP)-I	1.96 (0.95)	-0.378**	-0.342**	-0.224**	-0.163*	-0.322**
PT (PC)-F	1.81 (1.0)	-0.472**	-0.399**	-0.313**	-0.278**	-0.370**
PT (PC)-I	1.89 (1.0)	-0.323**	-0.296**	-0.191*	-0.197**	-0.237**

MD-T: Moral Distress Total Score, MD-I: Moral Distress Intensity Score, MD-F: Moral Distress Frequency Score, PS: Primarily System Score, RC: Represented Clinical Score, PT(TP): Primarily Team (team pressure) Score, PT(PC): Primarily Team Score (poor communication), PS-F: Primarily System Frequency Score, PS-I: Primarily System Intensity Score, RC-F: Represented Clinical Frequency Score, RC-I: Represented Clinical Intensity Score, PT(TP)-F: Primarily Team (team pressure) Frequency Score, PT(TP)-I: Primarily Team (team pressure) Intensity Score PT(PC)-F: Primarily Team Frequency Score (poor communication), PT(PC)-I: Primarily Team Intensity Score (poor communication).

* $p < 0.01$.

** $p < 0.05$.

Multiple regression analysis was performed to estimate the effects of participants' moral resilience on moral distress total, intensity, and frequency levels (Table 5). Moral resilience total score, responses to moral adversity, and relational integrity sub-dimensions were predictors of moral distress total, intensity, and frequency levels ($p < 0.05$). So, the increase in the participants' moral resilience has a reduced effect on moral distress.

Discussion

The study findings will be discussed under three headings. (1) The validity and reliability findings of the Rushton Moral Resilience Scale, (2) the findings related to the comparison of sociodemographic characteristics with the research variables, and (3) the findings regarding the relationship between moral resilience and moral distress.

The validity and reliability findings of the Rushton moral resilience scale

In line with the findings of the study, RMRS was found to be a valid and reliable measurement tool that can be used to measure moral sensitivity in nurses. RMRS, whose language translation was ensured using the translation-back translation technique, and content validity were evaluated with CVI.³⁶ As a result, it was determined that the scale items served the purpose in line with the results found. Furthermore, because of the

Table 5. The effects of participants' moral resilience on moral distress total, intensity, and frequency levels.

Variables	Moral distress total score		Moral distress frequency score		Moral distress intensity score	
	Unstandardized coefficients (SE.)	t (p-value)	Unstandardized coefficients (SE.)	t (p-value)	Unstandardized coefficients (SE.)	t (p-value)
Constant	12.09 (1.38)	11.33 (0.000)	3.81 (0.34)	11.04 (0.000)	3.53 (0.37)	9.35 (0.000)
Moral resilience total score	-2.69 (0.40)	-6.67 (0.001)	-0.73 (0.12)	-7.224 (0.000)	-0.60 (0.13)	-4.49 (0.000)
F1-responses to moral adversity	-1.07 (0.33)	-3.25 (0.001)	-0.31 (0.08)	-3.75 (0.000)	-0.32 (0.08)	-3.74 (0.000)
F2-personal integrity	-0.43 (0.45)	-0.95 (0.340)	-0.11 (0.11)	-0.99 (0.320)	-0.15 (0.11)	-1.28 (0.200)
F3-moral efficacy	-0.42 (0.41)	-1.02 (0.305)	-0.15 (0.10)	-1.52 (0.128)	-0.16 (0.10)	-1.53 (0.132)
F4-relational integrity	-0.75 (0.33)	-1.93 (0.024)	-0.17 (0.08)	-1.67 (0.036)	-0.18 (0.080)	-1.68 (0.040)
Model statistics	R: 0.392; R²: 0.153; F: 11.332 (p:.000)		R: 0.421; R²: 0.177; F: 13.433 (p:.000)		R: 0.430; R²: 0.185; F: 14.145 (p:.000)	

CFA performed to test the four-factor structure of the scale, it was found that the fit index values were within the acceptable range.³⁷ Accordingly, it was decided that the current structure of the scale is a valid scale for the Turkish language and culture.

The scale was found to have acceptable overall reliability (alpha = 0.826).³⁸ Furthermore, when the sub-dimensions of the scale are examined, except for the personal integrity sub-dimension, the other sub-dimensions show an acceptable level of reliability. In line with these findings, when the study in which the scale was developed is examined, it is seen that there is a parallelism between the reliability levels of the sub-dimension (alpha = 0.50–0.78) and the overall (alpha = 0.84).⁵

Findings on comparison of sociodemographic characteristics with research variables

Age, year of employment, gender, and clinical practice significantly differed in moral resilience scores. In the study of Clark et al. (2021), nurses who are older and therefore have longer tenure in the profession have higher resilience levels.²⁵ Similarly, another study found that every 10-year increase in age is a factor that increases moral resilience.³⁹ As age progresses, the resilience of nurses may increase with the increase in coping mechanisms in both individual and professional life, professional self-confidence, and the development of planning skills.²⁶

In the study, male nurses were found to have higher moral resilience than female nurses. Spilg et al. (2022) also found that the male gender affects stronger moral resilience. However, there is no adequate explanation for the gender difference in moral resilience.³⁹ On the other hand, the concept of psychological resilience varies according to gender; While women use more emotion-focused coping strategies, men use action-oriented coping strategies, and women use more social support to reduce stress than men.^{40,41} In addition, it is argued that men are exposed to less gender-role-related stressors than women and that women are perceived as fragile, weak, and dependent. In contrast, men internalize negative emotions and are strong and

independent.^{42,43} In this context, the fact that men have higher moral resilience levels than women in the study is thought to be due to the abovementioned reasons. However, the significant difference between genders is open to discussion since the rate of male participants was 14.9% in the current study. Analyzing this situation in studies with more male participants may yield better results.

Nurses working in the intensive care unit had lower moral resilience levels than other clinics (Table 3). ICU nurses often face morally complex situations, including addressing end-of-life issues, performing cardiopulmonary resuscitation, participating in post-mortem care, and prolonging life with artificial support. ICU nurses, faced with intense moral problems, have difficulty maintaining their moral integrity, and their moral resilience is thought to decrease over time.^{44,45} In addition, when the nurses' experiences working in the ICU were examined, it was found that about half were in the first 2 years of their professional life. In this case, nurses with less professional experience may be disadvantaged regarding professional knowledge, skills, and coping. Therefore, they may have difficulty managing complex ethical situations in the intensive care unit. As a result of the combination of being inexperienced and working in complicated conditions, moral resilience will inevitably be relatively low in intensive care units.

There was a significant difference between moral distress total, frequency, intensity scores, and age, years of employment, marital status, and educational status. The age of nurses and the years of professional work are parallel. Therefore, as age increases, the number of years of professional work also increases. The study findings regarding the nurse's age and professional experience will be discussed. The literature has conflicting results regarding the relationship between moral distress and age. Some studies found a positive relationship, while others found a negative relationship,^{46,47} while some studies found no relationship.⁴⁸ In the study, a similar result was found with the studies that found a negative relationship. Nurses of increasing age experience less moral distress. The reason for this situation can be partially explained by the role of experience in learning to deal with emerging ethical issues.

It was found that nurses with postgraduate education experience higher moral distress. There are different arguments on this subject. In addition to the views that advanced education increases nurses' moral sensitivity and, therefore, their susceptibility to moral distress, some argue that nurses may experience less moral distress because they are confident about their practices and feel competent to express their concerns about patients in a constructive way.^{49,50} Postgraduate education in our country is a science specialization. Although research and publication ethics courses are compulsory in some institutions, the general tendency is to conduct theoretical discussions and in-class case studies to raise awareness of ethical issues specific to each field.^{51,52} However, it is thought that the education given in this process is not qualified to develop skills in practice ethics and concrete solutions to the problems in the field. In addition, nurses receiving postgraduate education in Turkey have not been given any privileged authority in the clinic where they work.⁵³ As a result, this finding of our study was interpreted as the increase in the sense of responsibility with self-confidence, but the lack of legal basis to make the change, restrictions, and lack of skills for solutions in nurses who received postgraduate education.

Findings on the relationship between moral resilience and moral distress

A negative correlation was found between moral resilience and moral distress (Table 4). No study in the literature directly examines the relationship between moral resilience and moral distress. However, a moderate negative relationship was found in studies examining the relationship between burnout and turnover intent,^{48,54,55} which are known to be positively related to moral distress and moral resilience.^{5,56} In this context, it is thought that it has a reducing effect on moral resilience, burnout, and turnover intent, which is expected to indirectly reduce the level of moral distress.

According to the results of the multiple linear regression model, moral resilience explained 15%, 17%, and 18%, respectively, the total, frequency, and intensity scores of moral distress. Spilg et al. (2022), research

examining the relationship between the moral distress of healthcare workers and mental health during the Covid pandemic, supports the findings of this study. Spilg et al. (2022) found that moral resilience reduces moral distress and increases mental health.³⁹ However there hasn't been a study to date that examines either the causative factors or the directionality related to this association. The responses to moral adversity factor are when a person feels powerless, overwhelmed by facing ethical challenges. These experiences show parallelism with the effects of moral distress on the individual.⁹ Based on the argument put forward by Clark (2021), it is thought that increasing the individual's resilience may become an essential factor in reducing the moral distress resulting from moral adversity in the individual.²⁵

Relational integrity sub-dimension, another predictive factor of moral distress, is related to the interaction between personal values and values of other disciplines. When the concept of moral distress is examined, it is seen that the conflict of values has been referred to since the first years it was introduced. In a recent study conducted by Morley et al. (2022), the guide for moral distress interventions was developed. In this guide, first, the conflict of personal values with professional values during patient care, and in the second dimension, again emphasizing the values, the conflict of values with other healthcare professionals, moral perspective.⁵⁷ The differences in angles are shown as the reason for moral distress. On the other hand, this situation may limit nurses in terms of solving the ethical problem or putting the solution into practice and may cause moral distress.^{57,58}

Limitations

This study has several limitations that should be noted. It may be a limitation that abstract and multidimensional concepts such as moral distress and moral resilience have parts that cannot be examined with current measurement tools. The sample was reached via national nursing associations in the relevant section, and the data were collected online. While this situation could be interpreted and evaluated as a limitation of the study, it could also be seen as a strength insofar as it captures different perspectives. Moreover, since the study was conducted online since the participants could not be directly contacted within their institutions, they were believed to answer the survey questions more freely and honestly. Lastly, the sample consisted of nurses working in various hospitals and clinics throughout Turkey, meaning that the data were not confined to one particular hospital culture.

Conclusion

Moral resilience has a reducing effect on moral distress. The four-factor structure of the Ruston moral resilience scale was found to be a valid and reliable measurement tool for the Turkish language and culture. Young nurses who have less experience are at risk because they have lower moral resilience levels, while nurses working in intensive care units are at risk because of their high moral distress levels. In line with the study data, it is recommended to consider moral resilience in studies aimed at reducing moral distress in clinical nurses. In addition, qualitative and quantitative studies are needed to understand the structure between moral resilience and moral distress more clearly.

Implications for nursing and health policy

System-related factors are the most important causes of moral distress in the literature but it will not be possible to completely purify the system and health services from sources of moral distress. Therefore, increasing the resilience of employees as well as systemic regulations may be an important point to consider. According to the findings obtained from the research, young nurses with less professional experience and intensive care unit nurses may be especially at risk for moral distress and the negative, harmful effects of

moral distress. Therefore, this group needs the development of moral resilience at the beginning of their professional life. Thus, another dimension is that increasing moral resilience should be considered a starting point in studies conducted to reduce moral distress. Specifically, tailored approaches to develop moral resilience in reducing the impact of moral distress experienced in the healthcare setting are essential to creating and maintaining a healthy workplace. In this direction, initiatives and strategies should be developed to increase the moral resilience specific to the units, considering their clinical structures.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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