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Moral Injury, Nurse Well-being, and Resilience Among Nurses Practicing During the COVID-19 Pandemic

Joyce J. Fitzpatrick, PhD, RN, FAAN, FNAP, FAANP(H)
Grant Pignatiello, PhD, RN
Minjin Kim, PhD, RN
Jin Jun, PhD, RN

Dónal P. O'Mathúna, PhD
Henry O. Duah, MPH, BSN, RN
Jessica Taibl, MSN, APRN
Sharon Tucker, PhD, APRN-CNS, NC-BC, FNAP, FAAN

OBJECTIVE: The aim of this study was to determine relationships between moral injury (MI), well-being, and resilience among staff nurses and nurse leaders practicing during the COVID-19 (coronavirus disease 2019) pandemic.

BACKGROUND: Attention to MI among health professionals, including nurses, increased in 2021, particularly related to the pandemic. Few studies examined MI, well-being, and resilience; even fewer provided implications for leadership/management.

METHODS: The sample included 676 RNs practicing in Ohio. The electronic survey included assessments of MI, well-being, and resilience distributed via the Ohio Nurses Association and the schools of nursing alumni Listservs.

RESULTS: There was a significant association between MI and negative well-being and negative association between MI and resilience. Differences were observed between staff nurses and leaders.

CONCLUSIONS: This is the first study relating MI, resilience, and well-bring among nurses and nurse leaders during the pandemic. There is a need for additional research to further our understanding about nurses' health and well-being during the pandemic and beyond.

Author Affiliations: Director, Marian K. Shaughnessy Nurse Leadership Academy, Elizabeth Brooks Ford Professor of Nursing, and Distinguished University Professor (Dr Fitzpatrick), Frances Payne Bolton School of Nursing, Case Western Reserve University; and Instructor (Dr Pignatiello), Frances Payne Bolton School of Nursing, Case Western Reserve University, Cleveland: Assistant Professor (Dr Kim), College of Nursing, University of Cincinnati, Cincinnati; Assistant Professor (Dr Jun) and Associate Professor (Dr O'Mathúna), College of Nursing, The Ohio State University, Columbus; PhD Student (Mr Duah), College of Nursing, University of Cincinnati, Cincinnati; DNP Student (Ms Taibl), Frances Payne Bolton School of Nursing, Case Western Reserve University, Cleveland; and Grayce Sills Endowed Professor in Psychiatric Mental Health Nursing, Director of DNP Nurse Executive Core, and Director of Implementation Science Core (Dr Tucker), Fuld EBP Institute, College of Nursing, The Ohio State University, Columbus.

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Correspondence: Dr Fitzpatrick, Frances Payne Bolton School of Nursing, Case Western Reserve University, 10900 Euclid Ave, Cleveland, OH 44106 (joyce.fitzpatrick@case.edu).

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The COVID-19 pandemic has brought unprecedented challenges to healthcare systems around the world with substantial physical and mental toll on healthcare professionals. The proportion of nurses reporting mental health distress has risen to 80% in many countries.[1] Further, studies from every region of the world confirm nurses' rising trauma, anxiety, and burnout.[2,3] In the United States, 93% of healthcare workers experienced stress, 76% reported exhaustion and burnout, and the nurse-to-patient ratios increased 3-fold.[1] While these staggering amounts of stress among healthcare professionals, including nurses, do not specifically identify moral injury (MI) of nurses, the challenges of caring for critically ill patients during the pandemic may have put nurses at risk of MI. As a research team, we were interested in studying both clinical nurses' and nurse leaders' experiences of MI with the longer-term goal of developing interventions to mitigate the effects of the pandemic.

Background

Clinical dimensions of MI can be traced to the early 1990s in studies among military veterans in efforts to distinguish MI from posttraumatic stress disorder.[4]

Three core components of MI have been identified: 1) a betrayal of "what's right"; 2) by someone holding legitimate authority or by one's self; and 3) in high-stakes situations.[4]

The social dimension of MI also has been highlighted, as the harm is perceived as going beyond individuals to impact their community. In this view, MI can result from actions or statements that some people have less value or dignity than what society insists they have. Such injuries might be subjectively experienced, but they impact whether members of societies can trust that their dignity will be upheld. The injury may be so devastating that the person may come to believe they have lost their dignity or self-respect, which can have profound psychological consequences.[5]

The literature highlights different aspects of MI. Some authors identify MI as resulting from people participating in actions or situations that violate their code of ethics. In such cases, the one experiencing MI is both the recipient and source of the injury. A second strand of work views the setting as the main source of MI, not anything that the injured person has done. For example, in a war setting, viewing an atrocity or handling mutilated remains could be the source of MI.[6]

Other approaches to understanding MI in the literature further complicate usage of the term. For example, Gilligan[7] extended the definition to view MI as a loss of trust that impacts one's ability to care for others. She associates MI with loss of the ability to be in touch, empathize, care for, and love others. Such insights are particularly relevant, given their implications for nurses caring for patients during the pandemic and beyond.

Further, the literature on MI overlaps with that of moral distress. Concerns have been raised that the term *moral injury* is being used for what has previously been understood as moral distress, thus introducing a lack of conceptual clarity.[8] In healthcare settings, MI has not been widely studied, although this has started to change during the COVID-19 pandemic.[9,10] Grimell and Nilsson[11] reviewed the conceptual overlaps between moral distress and MI and advocated for integration of moral distress and MI. Both moral distress and MI may result in complex acute and chronic symptoms that do not easily resolve. Some scholars refer to MI as a type of moral distress, with long-term ramifications for perceptions of morality, psychological well-being, and manifestation of trauma.

The concept of MI has only recently been applied in healthcare, and much remains unclear about its precise nature.[12,13] Reports from nurses working during COVID-19 point to ethical issues and dilemmas linked to both MI and moral distress.[14] Nurses have felt constrained from doing the right thing for many reasons.[15] They have reported being treated like they are expendable.[15,16] In recent studies of MI among healthcare professionals, including nurses, researchers found a significant negative relationship between MI and resilience.[10,17] In a study focused on organizational factors related to MI among healthcare workers, important organizational themes emerged, including the need for strong support from nurse leaders to mitigate MI.[10] Our research team adopted a holistic approach to understanding MI, including the need to focus on individual and system factors, with a goal of identifying ways to promote nurses' well-being in the context of ethical challenges involving COVID-19.

Nurses Well-being

Concerns about nurses' health behaviors and outcomes have been discussed in studies for decades. Before pandemic, Melnyk and colleagues[18] found that among 1790 nurses approximately 40% reported high stress levels, approximately one-third reported depressive symptoms, and more than 50% reported suboptimal health behaviors and anxiety. Alarmingly, nurses with poorer health ratings were 26% to 71% more likely to report making medical errors.[18] Davidson et al[19] further elaborated grave concerns about nurses' mental health in a recent study demonstrating higher suicide rates among nurses than the general population for 10 years straight. In a systematic review of the literature, Hall and colleagues found significant relationships between MI and mental health and behavioral outcomes.[6] Studies during the pandemic found that mental health issues were prominent among nurses and other healthcare professionals[20-22] and that the relationship between MI and mental health was of concern.[13,17]

Resilience of Nurses During the COVID-19 Pandemic

In response to the concerns of nurses' health and well-being, researchers have studied resilience as a potential protective factor impacting stress and mental health outcomes. In research undertaken prior to the pandemic, resilience was negatively associated with depression[23] and anxiety.[24] In recent research undertaken with healthcare professionals during the pandemic, researchers found that moral resilience served as a moderator for MI.[17]

In summary, nurses' wellness and mental health resilience have received much attention during the pandemic. Resilience and MI are important concerns related to both individual- and system-level factors. This study was designed to add to understandings of the relationships among MI, resilience, and well-being among staff nurses and nurse leaders practicing during the COVID-19 pandemic and identify areas

for potential interventions that might mitigate the consequences of MI.

Methods

Sample

The study population was RNs engaged in clinical practice in Ohio during the COVID-19 pandemic. Nurses working for temporary employment agencies (eg, travel nurses) were excluded.

Measures

An electronic survey using Qualtrics software (SAP, Provo, Utah) was administered. We measured demographics, MI, well-being, and resilience.

Demographic information included individual characteristics (age, gender, race, education, years of nursing experience) and work characteristics (nursing role, practice location, full-time/part-time, and whether providing direct care to patients with COVID-19).

Moral injury was measured using the MI Symptom Scale: Healthcare Professionals Version, a 10-item scale measuring dimensions of MI: betrayal, guilt, shame, moral concerns, religious struggle, loss of religious/ spiritual faith, loss of meaning/purpose, difficulty forgiving, loss of trust, and self-condemnation. A 10-point Likert scale is used from 1 (strongly disagree) to 10 (strongly agree). Higher scores indicate higher MI.[12] Cronbach's α coefficient was 0.75 for this sample.

Resilience was measured using the Resilience Scale, a 14-item scale that assesses individual resilience by considering equanimity, perseverance, self-reliance, meaningfulness, and existential aloneness.[25] Higher scores indicate greater resilience. Cronbach's α for this sample was 0.92.

Well-being was measured using the Nurse Well-being Scale that includes dimensions of fatigue, depression, burnout, anxiety/stress, and mental/physical quality of life.[26] Total scores range from −2 (lowest risk) to 9 (highest risk), with higher scores indicating lower well-being. Cronbach's α for this sample was 0.75.

Data Collection

Following institutional review board approval, an email invitation was sent to nurses via the Ohio Nurses Association (ONA) email Listserv and the nursing alumni email Listservs from 3 large universities in different Ohio regions, including urban, suburban, and rural areas throughout the state. Nurses also received study information via the ONA newsletter with a link to participate. The survey was open for 10 weeks, June to August 2021. No incentive was provided.

Statistical Analysis

Descriptive statistics were used to describe the sample. Demographic and work characteristics among staff nurses and nurse leaders were compared using Student t test, χ^2 test, and Fisher exact test, as appropriate. Correlational analysis was performed to assess associations between MI, well-being, and resilience. We also compared MI, well-being, and resilience between staff nurses and nurse leaders using independent-samples t test (2-tailed, with $\alpha = 0.05$). Analysis was performed in SPSS version 27 (IBM Corp, Armonk, New York).

Results

Sample Characteristics

We excluded responses with incomplete data and responses from individuals who did not meet the study criteria, and thus, the total sample was 676: 439 staff nurses (65%) and 237 nurse leaders (35%; those in formal leadership roles, eg, nurse managers and directors). The groups did not differ on gender, race, practice location, or providing direct care to COVID-19 patients. Other individual characteristics (age, education, full-/part-time status, years of service) were significantly different between staff nurses and nurse leaders (Table 1).

Moral Injury, Well-being, and Resilience

For the total sample, we found high MI (42.21 [SD, 15.73]), low well-being (4.28 [SD, 2.52]), and high resilience (77.74 [SD, 13.73]). In comparisons between staff nurses and nurse leaders, we found that staff nurses reported higher MI (43.30 [SD, 16.10]) compared with nurse leaders (40.17 [SD, 14.82], t_{674} = 2.480, $P = 0.013$). Leaders reported higher resilience (79.26 [SD, 13.86]) relative to staff nurses (76.92 [SD, 13.60], t_{674} = −2.123, $P = 0.034$). There was no significant difference in well-being between staff nurses and leaders (Table 2).

We found a significant relationship between MI and well-being ($r = 0.499$, N = 676, $P < 0.001$); higher MI was related to higher well-being risk. There was a negative relationship between MI and resilience (r = −0.451, N = 676, $P < 0.001$) and between resilience and well-being (r = −0.449, N = 676, $P < 0.001$). These significant relationships were also found in the 2 groups (Table 3).

Among the staff nurses, working more than 36 h/wk was associated with higher MI, lower resilience, and higher well-being (more at risk scores in well-being). For nurse leaders, working for more than 36 hours per week was associated with lower resilience and higher well-being (more at risk scores in well-being), but similar MI as compared with nurse leaders working less than 36 hours per week. Staff nurses who provided direct care to COVID patients reported higher MI, lower resilience, and higher

Table 1. Sample Characteristics (N = 676)

	Total (N = 676)	Staff (n = 439)	Leaders (n = 237)	
Age, mean (SD), y	43.88 (1.99)	42.78 (12.20)	45.90 (11.34)	$t_{674} = -3.250$, $P = .001$[a]
Gender[b]				
Male	56 (8.3%)	38 (8.7%)	18 (7.6%)	$P = 0.657$[c]
Female	615 (91.4%)	396 (90.8%)	219 (92.4%)	
Transgender	2 (0.3%)	2 (0.5%)	—	
Race				
White	606 (89.6%)	400 (91.1%)	206 (86.9%)	$\chi^2_1 = 2.920$,
Non-White	70 (10.4%)	39 (8.9%)	31 (13.1%)	$P = 0.088$[d]
Education				
Associate/diploma	215 (31.8%)	145 (33.0%)	70 (29.5%)	$\chi^2_3 = 67.904$,
Baccalaureate	343 (50.7%)	255 (58.1%)	88 (37.1%)	$P < 0.001$[d]
Masters	103 (15.2%)	36 (8.2%)	67 (28.3%)	
Doctorate	15 (2.2%)	3 (0.7%)	12 (5.1%)	
Years of service as an RN, mean (SD)	14.79 (11.96)	13.29 (11.73)	17.59 (11.91)	$t_{674} = -4.523$, $P < 0.001$[a]
Practice location				
Urban	333 (49.3%)	229 (52.2%)	104 (43.9%)	$\chi^2_2 = 4.510$,
Suburban	225 (33.3%)	140 (31.9%)	85 (35.9%)	$P = 0.105$[d]
Rural	118 (17.5%)	70 (15.9%)	48 (20.3%)	
Effort				
Full-time (≥36 h/wk)	553 (81.8%)	331 (75.4%)	222 (93.7%)	$\chi^2_1 = 34.523$,
Part-time (<36 h/wk)	123 (18.2%)	108 (24.6%)	15 (6.3%)	$P < 0.001$[a]
Direct care to patients with COVID				
Yes	155 (22.9%)	108 (24.6%)	47 (19.8%)	$\chi^2_1 = 1.982$,
No	521 (77.1%)	331 (75.4%)	190 (80.2%)	$P = 0.159$[d]

Categorical variables are reported as: frequency (column %). Continuous variables are reported as mean (SD).
[a]By t test.
[b]Six participants declined to reveal their gender identity.
[c]By Fisher exact test.
[d]By χ^2 test.

Table 2. Moral Injury, Well-being, and Resilience of Nurses

	Total Sample (N = 676)	Staff (n = 439)	Leaders (n = 237)	t Test	P
	Mean (SD)	Mean (SD)	Mean (SD)		
Moral injury score[a]	42.21 (15.73)	43.30 (16.10)	40.17 (14.82)	2.480	0.013
Well-being score[b]	4.28 (2.52)	4.19 (2.52)	4.56 (2.51)	−1.322	0.186
Resilience score[c]	77.74 (13.73)	76.92 (13.60)	79.26 (13.86)	−2.123	0.034

Normative ranges for scores.
[a]Moral injury: 10 to 100, higher score means high MI (diagnostic value: ≥36).
[b]Well-being: −2 to 9, higher score means high distress (diagnostic value: ≥2).
[c]Resilience: 14 to 98, higher scores mean superior levels of resilience tendencies.

Table 3. Correlation Matrix

		Moral Injury Score	Resilience Score
Total sample (N = 676)	Moral injury score	—	
	Resilience score	−0.451[a]	—
	Well-being score	0.499[a]	−0.449[a]
Staff (n = 439)	Moral injury score	—	
	Resilience score	−0.432[a]	—
	Well-being score	0.496[a]	−0.446[a]
Leaders (n = 237)	Moral injury score	—	
	Resilience score	−0.476[a]	—
	Well-being score	0.531[a]	−0.473[a]

Normative ranges for scores. Moral injury: 10 to 100, higher score means high MI (diagnostic value: ≥36). Resilience: 14 to 98, higher scores mean superior levels of resilience tendencies. Well-being: −2 to 9, higher score means high distress (diagnostic value: ≥2).
[a]Correlation is significant at the 0.01 level (2-tailed).

well-being (more at risk scores in well-being). Nurse leaders who provided direct care to COVID-19 patients reported higher MI but reported comparable resilience and well-being to nurse leaders not providing direct care to COVID-19 patients (Table 4).

Discussion and Conclusions

COVID-19 has brought increased occupational risk for nurses and other healthcare employees,[8,27,28] including significant mental health problems.[20-22,29] Thus, there are major concerns for nurse leaders and administrators struggling to fill vacant positions, promote quality care, retain excellent nurses, and promote well-being among staff. Our study findings extend understandings of consequences of the pandemic and raise a number of implications for nurse leaders.

Participants reported MI levels (mean, 41.36) greater than the diagnostic value of 36 consistent with findings by Mantri et al.[30] Participants' well-being scores were in the diagnostic range for distress. Their resilience scores were relatively positive, suggesting that despite their low well-being and high MI, they are resilient. Not surprisingly, MI was moderately negatively associated with well-being, consistent with the findings of prior studies,[6,14] and negatively associated with resilience. These findings are important for nurse administrators who can work with staff to create environmental and system solutions/resources. Dean and colleagues[31] argued that resilience building is important for individuals, but for MI, solutions need to focus on the system, including long-term solutions changes in the business framework of healthcare.

Encouraging self-care and providing resources are essential for all nurses, including frontline staff and nurse leaders.[32] There are many suggestions that can be made to address MI and enhance resilience and well-being among clinical nurses and nurse leaders. Future studies could be implemented to address circumstances that lead to MI at a system level.[32,33] This could include regular manager rounds to acknowledge the struggles and risk of MI[32] and promote coping, connectedness, self-efficacy, hope calm, and safety[14] and team meetings to discuss concerns and truly listening to staff.[34] In addition, consultations with ethics experts can help nurses and nurse leaders manage MI and address what is unacceptable in challenging clinical situations.[28] The findings from our study parallel qualitative findings from focus groups with nurses where ethical challenges were identified and nurses expressed feelings of being expendable and stuck in very stressful patient care situations.[35]

Our findings are important for leaders to understand. Supportive interventions for individuals, such as through cognitive behavioral approaches or an MI

Table 4. Effect of Effort and Direct Care to Patients Diagnosed With COVID-19 on Moral Injury, Resilience, and Well-being of Nurses

	Total Sample (N = 676)			Staff (n = 439)			Leaders (n = 237)		
	Moral Injury	Resilience	Well-being	Moral Injury	Resilience	Well-being	Moral Injury	Resilience	Well-being
Effort									
Full-time employee (≥ 36 h/wk)	43.09 (15.83)	77.32 (13.80)	4.51 (2.44)	44.876 (16.22)	76.31 (13.62)	4.48 (2.42)	40.43 (14.89)	78.82 (13.96)	4.55 (2.47)
Part-time (<36 h/wk)	38.23 (14.64)	79.65 (13.26)	3.28 (2.65)	38.49 (14.81)	78.79 (13.41)	3.31 (2.63)	36.33 (13.71)	85.87 (10.55)	3.07 (2.86)
	$t_{674} = 3.123$, $P = 0.002$	$t_{674} = -1.705$, $P = 0.089$	$t_{674} = 4.994$, $P < 0.001$	$t_{437} = 3.628$, $P < 0.001$	$t_{437} = -1.644$, $P = 0.101$	$t_{437} = 4.284$, $P < 0.001$	$t_{235} = 1.037$, $P = 0.301$	$t_{235} = -1.917$, $P = 0.025$	$t_{235} = 2.237$, $P = 0.026$
Direct care to patients with COVID-19									
Yes	47.74 (15.61)	75.71 (14.58)	4.88 (2.40)	49.45 (15.77)	74.64 (15.40)	4.90 (2.23)	43.81 (14.64)	78.17 (12.32)	4.83 (2.78)
No	40.56 (15.39)	78.35 (13.41)	4.11 (2.53)	41.30 (15.72)	77.67 (12.90)	3.96 (2.57)	39.27 (14.77)	79.54 (14.23)	4.37 (2.44)
	$t_{674} = 5.082$, $P < 0.001$	$t_{674} = -2.107$, $P = 0.035$	$t_{674} = 3.392$, $P = 0.001$	$t_{437} = 4.677$, $P < 0.001$	$t_{437} = -2.017$, $P = 0.044$	$t_{207.11} = 3.694$, $P < 0.001$	$t_{235} = 1.888$, $P = 0.006$	$t_{235} = -0.605$, $P = 0.546$	$t_{235} = 1.127$, $P = 0.261$

Note. Continuous Variables are reported as: Mean (SD).
Normative Ranges for scores.
Moral Injury: 10 to100, high score means high MI (diagnostic value: ≥36).
Resilience: 14 to 98, higher scores mean superior levels of resilience tendencies.
Well-being: −2 to 9, high score means high distress(Diagnostic value: ≥2).

group intervention, have previously been suggested and evaluated in relation to MI.[36,37] Hines et al[13] found a supportive workplace environment was related to lower MI, whereas a stressful, less supportive environment was associated with increased MI. Addressing MI may have implications for staff retention[38] and would be important for healthcare leaders to address in future studies.

Although our study addressed important aspects of nurses and nurse leaders experiences during the pandemic, there are limitations to acknowledge. The cross-sectional nature of the research is one design limitation, and the sample, although from throughout the state, including nurses from urban, suburban, and rural communities, was limited in size and scope of time. We collected data in the summer of 2020 and did not account for changes in the acuity of the pandemic over time.

Nurse leaders are challenged to address outcomes of MI among nurses practicing during COVID-19, specifically in identifying and designing interventions for individual nurses but also in implementing institution- and system-level changes. Future research should attend to individual- and system-level factors related to MI, resilience, well-being, and nurse burnout and intent to leave, as the turnover of nurses during COVID-19 is of particular concern, affecting not only the health of individual nurses but also the quality of care provided to patients and families. Most especially, we need to focus on evaluating interventions to address these significant challenges for clinical nurses and nurse leaders.

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