Burnout and moral resilience in interdisciplinary healthcare professionals

Inga Antonsdottir BSN, RN, DNP-PhD Student1 | Cynda Hylton Rushton PhD MSN RN FAAN, Anne, George L. Bunting Professor of Clinical Ethics, Professor of Nursing and Pediatrics1,2 | Katie Elizabeth Nelson MSN, RN, PhD Student1 | Katherine E. Heinze PhD, RN, Assistant Professor3 | Sandra M. Swoboda RN MS, Department of Surgery Research Program Coordinator, Pre-Licensure Masters Entry Program Simulation Coordinator/Educator4 | Ginger C. Hanson PhD, Assistant Professor1

1Johns Hopkins University School of Nursing, Baltimore, MD, USA
2Berman Institute of Bioethics, Baltimore, MD, USA
3Florida Atlantic University Christine E. Lynn College of Nursing, Boca Raton, FL, USA
4Johns Hopkins University Schools of Medicine and Nursing, Baltimore, MD, USA

Correspondence
Inga Antonsdottir, Johns Hopkins University School of Nursing, 525 North Wolfe Street Box 420 Baltimore, MD 21205, USA.
Email: iantons1@jhu.edu

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Abstract
Aims and objectives: To examine demographic and work characteristics of interdisciplinary healthcare professionals associated with higher burnout and to examine whether the four domains of moral resilience contribute to burnout over and above work and demographic variables.

Background: Healthcare professionals experience complex ethical challenges on a daily basis leading to burnout and moral distress. Measurement of moral resilience is a new and vital step in creating tailored interventions that will foster moral resilience at the bedside.

Design: Cross-sectional descriptive design.

Methods: Healthcare professionals in the eastern USA were recruited weekly via email for 3 weeks in this cross-sectional study. Online questionnaires were used to conduct the study. The STROBE checklist was used to report the results.

Results: Work and demographic factors, such as religious preference, years worked in a healthcare profession, practice location, race, patient age, profession and education level, have unique relationships with burnout subscales and turnover intention, with the four subscales of moral resilience demonstrating a protective relationship with outcomes above and beyond the variance explained by work and demographic variables.

Conclusions: Higher moral resilience is related to lower burnout and turnover intentions, with multiple work demographic correlates allowing for potential areas of intervention to deal with an increase in morally distressing situations occurring at the bedside. Additionally, patterns of significant and non-significant relationships...
between the moral resilience subscales and burnout subscales indicate that these subscales represent unique constructs.

**Relevance to clinical practice:** Understanding the everyday, pre-pandemic correlations of moral resilience and burnout among interdisciplinary clinicians allows us to see changes that may exist. Measuring and understanding moral resilience in healthcare professionals is vital for creating ways to build healthier, more sustainable clinical work environments and enhanced patient care delivery.

**Keywords**
burnout, ethics, healthcare professionals, healthy work environment, interdisciplinary, moral resilience, nurses

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**1 | INTRODUCTION**

Nurses, physicians, social workers, chaplains and other healthcare professionals experience complex ethical challenges that can lead to burnout, staff turnover and moral distress (Allen et al., 2013; Houston et al., 2013; Whitehead et al., 2015). While each profession is host to its own body of knowledge, these experiences are shared collectively among interdisciplinary colleagues (Choi & Pak, 2006). These issues have plagued healthcare workers and intensified during the COVID-19 pandemic (Azoulay et al., 2020). Moral distress, a contributor to burnout especially in critical care settings (McHugh et al., 2011; Moss & Good, 2016), arises when a clinician’s integrity is threatened as a result of conflicting or unmet fundamental professional values that create dissonance between what an individual believes one ought to do and what one is actually doing (Epstein & Delgado, 2010; Rushton, 2018; Thomas & McCullough, 2015). Witnessing, participating in or falling short of moral obligations under conditions of constraint or duress can lead to moral distress (Carse & Rushton, 2017). Moral distress contributes to serious consequences such as burnout, less engaged patient care and healthcare providers leaving their profession (Allen et al., 2013; Heinze et al., 2021; Oh & Gastmans, 2015; Pauly et al., 2012; Rushton et al., 2016; Whitehead et al., 2015).

Burnout, a syndrome characterised by ‘Emotional Exhaustion, cynicism, and ineffectiveness’ (Maslach et al., 1996), is increasing at an alarming rate among healthcare professionals. Estimates range from 35% to 45% among nurses (McHugh et al., 2011; Moss & Good, 2016) and 40% to 45% among physicians (Shanafelt et al., 2011; Moss & Good, 2016). Previous studies have established nurses (Epp, 2012; Losa Iglesias et al., 2013; Mealer et al., 2012) and physicians (del Carmen et al., 2019; Kumar, 2016; Maslach et al., 1996) working in high-risk areas have an increased risk for experiencing burnout. These high-risk areas include emergency and critical care units, where healthcare professionals are exposed to extensive work-related stress, known to increase burnout symptoms (Donchin & Seagull, 2002; Embriaco et al., 2007). The literature has explored burnout among nurses and physicians; however, less is known about other healthcare professionals. Henrich et al. (2017) found health professionals other than physicians and nurses experience moral distress and its negative consequences, including the desire to leave or quit their profession. Feelings of burnout, workload and being overwhelmed by morally distressing situations in the intensive care setting without preferred debriefing strategies in place were emphasised as driving factors by other health professionals (Henrich et al., 2017). Scanlan and Still (2019) sampled nursing, medicine, occupational therapy, psychology and social work demonstrating that job satisfaction, turnover intention (TI) and burnout were strongly intercorrelated. These results underscore the importance of finding modifiable factors that may be amenable to intervention.

Building moral resilience, ‘the ability to preserve or restore integrity in response to moral adversity’ (Rushton, 2018, p. 126) has been proposed as a promising approach to reduce the detrimental impact of moral distress and burnout while empowering clinicians to seek opportunities to enhance their ethical confidence and competence, and to foster mindfulness, self-regulation, buoyancy, self-stewardship and integrity (Heinze et al., 2021; Holtz et al., 2018; Rushton et al., 2016). An evolving concept, moral resilience is grounded in a robust understanding of personal, professional and Relational Integrity. Moral resilience encompasses a stance of stable and focused attention, clarity about what values one stands for and embodies, non-reactive discernment to determine actions, congruence with one’s values, and at times, the courageous enactment to speak up and act in order to uphold...
fundamental moral commitments (Rushton, 2018). Complacency, 'blaming the victim' or attempting to overlook contributors to moral distress in healthcare systems misinterprets the meaning of the concept of moral resilience and risks overlooking the robust nature of the concept by reducing it to narrow and misguided interpretations (Epstein & Hurst, 2017; Wocial, 2020). Moral resilience consists of four subscales: Responses to moral Adversity, Personal Integrity, Moral Efficacy and Relational Integrity (Heinze et al., 2021). Cultivating individual moral resilience among interprofessional healthcare professionals coupled with systemic redesign of the healthcare system to dismantle impediments to ethical practice offers a promising direction for culture change (Rushton & Sharma, 2018).

Understanding the relationship between moral resilience, burnout and contributory factors within interdisciplinary healthcare professionals will provide insight on (a) areas where integrity and ethical practice can be fostered; (b) where levels of moral resilience in healthcare professionals can be increased. This insight will impact organisational culture to create healthier work environments, and distinguish unique aspects (both moral and ethical) that contribute to burnout, creating a foundation for tailored programmes. Therefore, the purpose of this study was to examine the demographic and work characteristics of interdisciplinary healthcare professionals that are associated with higher burnout and to examine whether the four subscales of moral resilience contribute to burnout over and above work and demographic variables.

2 | METHODS

2.1 | Design and data collection

This study used a cross-sectional descriptive survey. The online survey design was selected to obtain a large sample of information on individuals’ characteristics and responses related to burnout and moral resilience. The STROBE statement was used to report this study (Supporting Information). A convenience sample of interdisciplinary healthcare professionals (chaplains, nurses, physicians and social workers) was recruited through email from five hospital systems in the eastern region of the USA to complete an online survey. The survey included demographic information, the Rushton Moral Resilience Scale (RMRS; Heinze et al., 2021), Maslach Burnout Inventory Human Services Survey (Maslach et al., 1996) and Connor Davidson Resilience Scale (CD-RISC-10; Connor & Davidson, 2003). Recruitment emails were sent to all hospital employees weekly for 3 weeks, and participants’ responses were anonymously collected via Qualtrics, an online survey software, with the goal of recruiting at least 350 participants. Inclusion criteria included the following: (a) having at least 1 year of professional experience as a chaplain, registered nurse, advance practice nurse, physician or social worker; and (b) ability to read and understand English. Institutional Review Board (IRB) approval was obtained from the Johns Hopkins Institutional Review Board (IRB00144412; approved 2/7/2018), and participant consent was provided at time of survey completion.

2.2 | Predictors

2.2.1 | Work and demographic characteristics

Participant characteristics such as profession, practice setting, years in practice, professional specialty, age, race and religious preference were captured. Years in practice was separated according to Patricia Benner’s novice to expert theoretical framework, with 0–2 years of practice representing novice healthcare professionals, and greater than 10 years of practice representing experts (Benner, 1982).

2.2.2 | Experience of challenging ethical situations

The experience of challenging ethical situations was determined by a single question, ‘In the past month, how many challenging ethical situations have you faced in your professional role?’ Responses were collected in a free-text format, and then, responses were categorised into a 4-point Likert-type scale (1 = never, 2 = sometimes (1–8 times/month), 3 = often (9–16 times/month) and 4 = most of the time (>17 times/month)) for the purposes of data analysis.

2.2.3 | Rushton Moral Resilience Scale

The RMRS (Heinze et al., 2021) contains 17 items that represent four subscales: Responses to Moral Adversity, Personal Integrity, Moral Efficacy and Relational Integrity. The Responses to Moral Adversity subscale assesses concepts such as feeling powerless, overwhelmed or weighed down from encountering ethical challenges; the Personal Integrity subscale measures the consistency with which a person is able to uphold their values in response to moral adversity; and the Moral Efficacy subscale measures to the extent that a person feels capable and confident to address ethical challenges and advocate for themselves and their values in the face of ethical conflicts. Finally, the Relational Integrity subscale captures the interplay between personal values and the values of other interdisciplinary clinicians.

The response format is a Likert-type scale with four response options (1 = disagree, 2 = somewhat disagree, 3 = somewhat agree and 4 = agree), with negatively worded items inversely coded to ensure higher scores indicate more resiliency. The RMRS has been validated and has overall reliability ($\alpha$ = .83) and internal reliability for each subscale as follows: Buoyancy ($\alpha$ = .78); Personal Integrity ($\alpha$ = .50); Moral Efficacy ($\alpha$ = .69); and Relational Integrity ($\alpha$ = .78). Scores are computed by taking the mean of all items in the respective subscale.
2.3 | Outcomes

2.3.1 | Maslach Burnout Inventory Human Services Survey

The Maslach Burnout Inventory Human Services Survey (MBI-HSS) is a widely used burnout scale adapted specifically for human services professionals. The survey is comprised of three subscales: Emotional Exhaustion (EE), Depersonalization (DP) and Personal Accomplishment (PA) (MBI; Maslach et al., 1996). EE has been theorised as a result of interpersonal stress and preliminary symptom of the burnout process, prompting some healthcare professionals to then depersonalise their care recipients, captured by the DP subscale (Leiter & Maslach, 1988; Maslach et al., 2001). Contrarily, the third subscale, PA, is thought to mitigate the burnout process as increased PA abates other burnout symptoms (Leiter & Maslach, 1988; Maslach et al., 2001). The MBI-HSS contains 22 items with seven response options on a Likert-type scale (1 = never, 2 = a few times a year or less, 3 = once a month or less, 4 = a few times a month, 5 = once a week, 6 = a few times a week and 7 = every day). The scale has been extensively validated and has an internal reliability of \( \alpha = .83 \) (Maslach & Jackson, 1981).

2.3.2 | Turnover intentions

Turnover intention was determined by a single question, ‘In the past month, I have seriously thought about looking for a new job’. The response format was a 4-point Likert-type scale (1 = disagree, 2 = somewhat disagree, 3 = somewhat agree and 4 = agree). The Turnover Intention Scale, from which this question was derived, has been validated and has an internal reliability of \( \alpha = .80 \) (Bothma & Roodt, 2013).

2.4 | Statistical analyses

Descriptive statistics (frequencies, means and standard deviations) were computed for all variables (Table 1). Regression models were built in three steps: (a) simple linear regressions were used to determine which participant characteristics were uniquely related to each of our outcomes (EE, DP, PA and TIs); (b) multiple regressions were used with all participant characteristics that were uniquely correlated with one or more outcomes; and (c) hierarchical multiple linear regression was used to determine whether the RMRS subscales predicted each of the outcome variables over and above the demographic and work variables that were significant in the previous multiple regression models. For the hierarchical regression models, participant characteristics (i.e. work and demographic variables) that were significant in the previous multiple regression models were added to the hierarchical model in the first block. The RMRS subscales were then added in the second block, for each outcome variable, to determine whether the moral resilience subscales explained variance in each of the outcome variables above and beyond the work and demographic variables. It was hypothesised that taken together the four RMRS subscales (Responses to Moral Adversity, Personal

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**Table 1** Descriptive characteristics of healthcare professionals

|                      | M (SD)     |
|----------------------|------------|
| Age \((N = 538)\)    | 45.6 (12.3) (range: 22–72 years) |
| Years worked as a healthcare professional \((N = 633)\) | 17.7 (12.2) (range: 0.5–50 years) |
| Race \((N = 632)\)   |            |
| White                | 75.7%      |
| Asian/Pacific Islander | 5.1%     |
| Black/African American | 2.7%     |
| Multiple races       | 2.4%       |
| Other                | 3.7%       |
| Religious preference \((N = 639)\) |        |
| Christian            | 60%        |
| Jewish               | 9.6%       |
| Spiritual, not religious | 2.4%   |
| No preference        | 5.2%       |
| Other                | 2.6%       |
| Professional role \((N = 639)\) |         |
| Nurse                | 68.8%      |
| Chaplain             | 2.6%       |
| Physician            | 15%        |
| Social Work          | 4.3%       |
| Did not report       | 9.3%       |
| Level of education \((N = 639)\) |        |
| Associates           | 9.8%       |
| Bachelor’s           | 43.5%      |
| Master’s             | 21.4%      |
| Doctorate            | 15.9%      |
| Primary patient population \((N = 637)\) |       |
| Adult patient        | 51.2%      |
| Paediatric/adolescent patient | 39.1%  |
| Primary practice location \((N = 633)\) |        |
| Emergency department | 7.2%       |
| Inpatient acute care | 27.2%      |
| Inpatient critical care | 18%    |
| Operating room       | 6.8%       |
| Outpatient/ambulatory | 20%        |
| Multiple locations   | 10.5%      |
| Intent to leave \((N = 696)\) |       |
| In the past month I have seriously thought about leaving my position. 1 = disagree (low intent to leave) | 46%  |
| 2 = somewhat disagree | 10.6%   |
| 3 = somewhat agree   | 15.9%      |
| 4 = agree (high intent to leave) | 26.2%   |
greatly among healthcare professionals (Table 4). Frequency of experiencing ethical dilemmas did not differ and 16% reported not confronting any ethical dilemmas in the last month, 8% experienced them more than 9 times in the last month, (76%) reported confronting ethical dilemmas 1–8 times in the last month. While we did not measure moral distress directly, a majority of participants practised in inpatient acute care, 22% in outpatient ambulatory care, 20% in inpatient critical care, 12% in multiple practice locations, 8% in the emergency department and 8% in the operating room. Bivariate relationships between participant work and demographic characteristics and each MBI-HSS subscale were explored. While we did not measure moral distress directly, a majority of participants (76%) reported confronting ethical dilemmas 1–8 times in the last month, 8% experienced them more than 9 times in the last month, and 16% reported not confronting any ethical dilemmas in the last month. Frequency of experiencing ethical dilemmas did not differ greatly among healthcare professionals (Table 4).

3 | RESULTS

3.1 | Description of healthcare professional characteristics

The majority of participants were nurses (75%), worked with an adult patient population (57%), had a baccalaureate degree (48%), were Christian (66%) and were Caucasian (84%). Overall, the mean age of the sample was 45.6 years, with an average tenure of 17.7 years (range: 0.5–50 years) in their respective profession. Thirty per cent practised in inpatient acute care, 22% in outpatient ambulatory care, 20% in inpatient critical care, 12% in multiple practice locations, 8% in the emergency department and 8% in the operating room. Bivariate relationships between participant work and demographic characteristics and each MBI-HSS subscale were explored. While we did not measure moral distress directly, a majority of participants (76%) reported confronting ethical dilemmas 1–8 times in the last month, 8% experienced them more than 9 times in the last month, and 16% reported not confronting any ethical dilemmas in the last month. Frequency of experiencing ethical dilemmas did not differ greatly among healthcare professionals (Table 4).

3.2 | Statistical model building

In the initial simple linear regression models, the following demographic and work-related variables were significantly related to one or more of the outcome variables: race, education, religion, years working as a healthcare professional, profession, practice setting and patient population. Bivariate correlations between the subscales of moral resilience, burnout and turnover are presented in Table 2.

Variables that remained significant were carried forward into the multiple regression models. In the multiple regression models, the following variables remained significant predictors of one or more outcome: race, education, religion, tenure, profession, practice setting and patient population. These variables were carried forward into the final hierarchical multiple regression analyses described below.

3.3 | Depersonalization

Demographic and work characteristics were entered into the hierarchical regression in block 1 and accounted for 18% (p < .001) of the variability on DP (Table 3). Healthcare professionals who had no religious preference had higher DP than those of Christian faith (β = −2.73 ± 0.66, p < .001), those with spirituality (β = −2.35 ± 0.81, p = .003) and those classified as ‘other’ (β = −2.58 ± 1.08, p = .017). Faiths in the ‘other’ category included practising the Hindu, Buddhist or Muslim faiths. The longer the healthcare professionals had worked at their job, the less the DP they reported (β = −0.07 ± 0.02, p = .017). Working in emergency department (β = 3.12 ± 0.76, p = .000) or inpatient acute care (β = 1.58 ± 0.52, p < .001) settings were associated with greater DP as compared to outpatient and ambulatory settings. Healthcare professionals caring for paediatric and/or adolescent patients (β = −1.70 ± 0.42, p < .001) reported lower DP compared with clinicians caring for adult patients. Healthcare professionals who reported not experiencing ethical dilemmas reported lower DP than those who reported experiencing ethical dilemmas sometimes (β = 1.67 ± 0.50, p = .001), often (β = 3.49 ± 0.99, p < .001) and most of the time (β = 5.45 ± 1.24, p < .001).

The subscales of moral resilience were added in block 2 and explained 31% (∆R² = .31, p < .001) of the variability in DP over and above the demographic and work characteristics. The subscales Responses to Moral Adversity (β = −2.56 ± 0.36, p < .001) and Moral Efficacy (β = −1.04 ± 0.49, p = .034) were both significantly negatively associated with DP. The Professional Integrity and Relational Integrity subscales were not significantly related to DP when controlling for all other variables in the model.

| TABLE 2 Correlations among moral resilience and burnout |
|---------------------------------|--------|--------|--------|--------|--------|--------|--------|
| Subscales of moral resilience |       |       |       |       |       |       |       |
| Buoyancy                       | 1      |       |       |       |       |       |       |
| Personal Integrity             | .01    | 1      |       |       |       |       |       |
| Moral Efficacy                 | .49**  | .17**  | 1      |       |       |       |       |
| Relational Integrity           | .62**  | .11**  | .57**  | 1      |       |       |       |
| Subscales of burnout           |       |       |       |       |       |       |       |
| Depersonalization              | −.41** | −.11** | −.23** | −.27** | 1      |       |       |
| Emotional Exhaustion           | −.42** | −.02   | −.20** | −.21** | .61**  | 1      |       |
| Personal Accomplishment        | .38**  | .14**  | .40**  | .35**  | −.35** | −.33** | 1      |
| Turnover Intention             | −.26** | .03    | −.11** | −.13** | .31**  | .53**  | −.23** |

Note: *p < .05; **p < .01; ***p < .001.
### Table 3: Hierarchical models of burnout and moral resilience by subscales

| Independent variables | Depersonalization |  | Emotional Exhaustion |  | Personal Accomplishment |  |
|-----------------------|-------------------|---|----------------------|---|-------------------------|---|
|                       | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 |
|                       | β    | SE   | β    | SE   | β    | SE   | β    | SE   | β    | SE   | β    | SE   |
| **Demographic factors** |       |       |       |       |       |       |       |       |       |       |       |       |
| Religion (vs. no preference) |       |       |       |       |       |       |       |       |       |       |       |       |
| Christian | -2.73*** | 0.66 | -2.50*** | 0.61 | -4.97** | 1.58 | -4.57*** | 1.44 | 1.76 | 0.86 | 1.46 | 0.77 |
| Jewish | -0.55 | 1.37 | -0.55 | 1.24 | -1.82 | 3.20 | -1.74 | 2.92 | 0.03 | 1.74 | 0.11 | 1.56 |
| Spiritual, not religious | -2.35** | 0.81 | -2.04** | 0.73 | -2.64 | 1.89 | -1.88 | 1.72 | 1.86 | 1.03 | 1.60 | 0.92 |
| Other | -2.58*** | 1.08 | -2.83*** | 1.02 | -3.59 | 2.59 | -4.38 | 2.36 | 1.53 | 1.41 | 1.96 | 1.26 |
| Number of years worked | -0.10*** | 0.02 | -0.07*** | 0.02 | -0.11** | 0.04 | -0.04 | 0.04 | 0.06** | 0.02 | 0.01 | 0.02 |
| **Practice location (vs. outpatient)** |       |       |       |       |       |       |       |       |       |       |       |       |
| Emergency department | 2.90*** | 0.82 | 2.89*** | 0.76 | 0.34 | 1.96 | 0.24 | 1.75 | -1.21 | 1.06 | -1.26 | 0.95 |
| Inpatient acute care | 1.61** | 0.79 | 1.47** | 0.51 | 1.56 | 1.33 | 1.23 | 1.21 | -1.49 | 0.72 | -1.33 | 0.65 |
| Inpatient critical care | 1.10 | 0.63 | 0.73 | 0.59 | -0.03 | 1.51 | -1.31 | 1.38 | -2.61 | 0.82 | -2.18** | 0.74 |
| Operating room | -0.48 | 0.83 | -0.18 | 0.77 | -1.95 | 1.98 | -1.03 | 1.81 | -0.85 | 1.08 | -1.10 | 0.96 |
| Multiple locations | 0.63 | 0.75 | 0.81 | 0.69 | -0.04 | 1.77 | 0.52 | 1.62 | -1.21 | 0.96 | -1.34 | 0.86 |
| **Race (vs. White)** |       |       |       |       |       |       |       |       |       |       |       |       |
| Asian/Pacific Islander | -1.40 | 0.90 | -3.22 | 1.90 | -4.80* | 2.15 | -4.56 | 4.48 | -1.46 | 1.33 | -1.44 | 2.38 |
| Black/African American | -2.50 | 1.16 | -2.37 | 1.99 | -7.34** | 2.77 | -2.63 | 4.72 | -2.23 | 1.52 | -5.03* | 2.52 |
| Multiple races | -1.51 | 1.21 | -1.66 | 2.03 | -2.12 | 2.90 | -0.26 | 2.31 | 0.47 | 1.58 | -1.83 | 2.56 |
| Other | -0.70 | 1.00 | -2.16 | 0.94 | -3.59 | 2.59 | -1.49 | 4.38 | -2.61 | 1.31 | -2.99 | 2.45 |
| **Patient Age (vs. adult patient)** |       |       |       |       |       |       |       |       |       |       |       |       |
| Paediatric/adolescent patient | -1.70*** | 0.42 | -1.64*** | 0.39 | -4.6*** | 1.00 | -4.43*** | 0.92 | 0.01 | 0.54 | 0.06 | 0.49 |
| **Profession (vs. nursing)** |       |       |       |       |       |       |       |       |       |       |       |       |
| Chaplain | -4.53*** | 1.28 | -2.45* | 1.20 | -9.44** | 3.06 | -3.81 | 2.83 | 5.48*** | 1.67 | 2.89 | 1.51 |
| Physician | -0.52 | 1.15 | 0.16 | 1.07 | 1.60 | 2.76 | 3.44 | 2.52 | 1.23 | 1.50 | 0.49 | 1.34 |
| Social work | -0.06 | 1.02 | 0.60 | 0.95 | -2.94 | 2.45 | -1.41 | 2.24 | 0.78 | 1.33 | -0.52 | 1.20 |
| **Education (vs. associate)** |       |       |       |       |       |       |       |       |       |       |       |       |
| Bachelor's | -0.53 | 0.66 | -0.20 | 0.62 | 0.05 | 1.58 | 1.55 | 1.47 | -0.02 | 0.86 | 0.04 | 0.78 |
| Master's | 0.25 | 0.75 | 0.56 | 0.70 | 3.00 | 4.00 | 4.00* | 1.65 | -0.31 | 0.98 | -0.30 | 0.88 |
| Doctorate | 1.45 | 1.26 | 1.66 | 1.16 | -0.03 | 3.02 | 0.46 | 2.75 | -0.17 | 1.64 | -0.41 | 1.46 |
| **Freq. of ethical dilemmas (vs. never)** |       |       |       |       |       |       |       |       |       |       |       |       |
| Sometimes | 1.67*** | 0.50 | 1.37*** | 0.47 | 2.20 | 2.37 | 1.07 | 1.10 | 1.80** | 0.65 | 1.98** | 0.59 |
| Often | 3.49*** | 0.99 | 3.33*** | 0.92 | 6.55** | 2.96 | 5.53** | 2.17 | 3.78** | 1.29 | 3.54** | 1.16 |
| Most of the time | 5.45*** | 1.24 | 4.81*** | 1.14 | 11.88*** | 0.04 | 10.0*** | 2.7 | 0.11 | 1.61 | 0.83 | 1.44 |

$$R^2 = .18 \quad R^2 = .15 \quad R^2 = .06$$

$$p < .001 \quad p < .001 \quad F < .001$$

(Continues)
### 3.4 | Emotional Exhaustion

In block 1, demographic and work characteristics explained 15% of the variability in EE ($p = .001$). Variables that were significantly associated with increased EE included having a graduate-level education as compared to an associate-level education ($\beta = 4.00 \pm 1.65$, $p = .016$). Variables that were significantly associated with decreased EE in Model 2 were identified as Asian/Pacific Islander ($\beta = −7.80 \pm 2.15$, $p = .03$) or Black/African American ($\beta = −7.34 \pm 2.77$, $p = .008$) as compared to White; Christians ($\beta = −4.97 \pm 1.58$, $p = .002$) as compared to no religious preference; and caring for pediatric and/or adolescent patients as compared to adult patients ($\beta = −4.60 \pm 1.00$, $p < .001$).

Next, the subscales of moral resilience were added in block 2. Together, the moral resilience subscales explained 26% ($\Delta R^2 = .26$, $p = .001$) of the variability in EE over and above the demographic and work characteristics. On average, for every additional point on the Responses to Moral Adversity subscale, EE decreased 7.81 points ($\beta = −7.81 \pm 0.85$, $p < .001$). Whereas for every additional point increase on the Relational Integrity subscale, EE increased by 2.01 point ($\beta = 2.01 \pm 0.99$, $p = .044$). The Personal Integrity and Moral Efficacy subscales were not significantly related to EE when controlling for all other variables in the model.

### 3.5 | Personal Accomplishment

Demographic and work characteristics included in block 1 explained 6% of the variability in PA ($p < .001$). Variables that were significantly associated with increased PA included identifying with the Christian faith ($\beta = 1.76 \pm 0.86$, $p = .040$) as compared to no religious preference; working as a chaplain ($\beta = 5.48 \pm 1.67$, $p < .001$) as compared to a nurse; and experiencing ethical dilemmas sometimes ($\beta = 1.80 \pm 0.65$, $p = .006$) or often ($\beta = 3.78 \pm 1.29$, $p < .001$) as compared to never. Variables significantly associated with decreased PA were working in inpatient critical care settings ($\beta = −2.61 \pm 0.82$, $p = .001$) and inpatient acute care ($\beta = −1.49 \pm 0.72$, $p = .04$) as compared to outpatient or ambulatory settings.

The subscales of moral resilience were then added in block 2. Together, the subscales of moral resilience explained 25% ($\Delta R^2 = .25$, $p < .001$) of variability in PA over and above the demographic and work characteristics. None of the subscales of moral resilience were significantly related to PA when controlling for all other variables in the model. Given the substantial variability explained by the combined subscales, the lack of significance in any specific subscale is likely an artefact of multicollinearity.

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### Table 3 (Continued)

| Independent variables | Depersonalization | Emotional Exhaustion | Personal Accomplishment |
|-----------------------|-------------------|----------------------|-------------------------|
|                       | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 | Model 1 | Model 2 |
|                       | $\beta$ | SE   | $\beta$ | SE   | $\beta$ | SE   | $\beta$ | SE   | $\beta$ | SE   | $\beta$ | SE   |
| Moral resilience factors |         |      |         |      |         |      |         |      |         |      |         |      |
| Buoyancy              | −2.56*** | 0.36 | −7.81*** | 0.85 | 2.19 | 0.45 |
| Personal Integrity    | −0.37 | 0.33 | 0.03 | 0.78 | 0.69 | 0.41 |
| Moral Efficacy        | −1.04†  | 0.49 | −1.58 | 1.15 | 3.02 | 0.61 |
| Relational Integrity  | 0.15 | 0.42 | 2.01*  | 0.99 | 0.87 | 0.53 |
| $R^2 = .34$           |         |      | $R^2 = .30$  |      | $R^2 = .29$  |      |
| $\Delta R^2 = .31$   |         |      | $\Delta R^2 = .26$  |      | $\Delta R^2 = .25$  |      |
| $\Delta p < .001$     |         |      | $\Delta p < .001$  |      | $\Delta p < .001$  |      |

Note: Degrees of freedom: depersonalization = 570; exhaustion = 572; accomplishment = 573.

Abbreviations: CI, confidence interval; freq., frequency; Outpt, outpatient.

*Included all variables significant at $p < .05$ based on individual bivariate analyses; demographics entered as first block, moral resilience factors entered as second block.

*p < .05; **p < .01; ***p < .001.

### Table 4 Ethical dilemma frequency per month by profession

| Profession | Never | Sometimes (1–8 times/month) | Often (9–16 times/month) | Most of the time (>17 times/month) |
|------------|-------|-------------------------------|--------------------------|----------------------------------|
| Chaplin    | 0%    | 88.9%                         | 5.6%                     | 0%                               |
| Nurse      | 16.7% | 68.2%                         | 4.5%                     | 2.7%                             |
| Physician  | 9.4%  | 72.6%                         | 6.6%                     | 4.7%                             |
| Social work| 10%   | 83.3%                         | 3.3%                     | 0%                               |
| Independent variables | Turnover intention | Moral resilience factors |
|-----------------------|--------------------|-------------------------|
|                       | Model 1    | Model 2    |                       |                       |
|                       | \( \beta \) | SE        | \( \beta \) | SE        |
| Demographic factors   |           |           |               |           |
| Religion (vs. no preference) |           |           |               |           |
| Christian             | -0.37* | 0.17     | -0.35* | 0.17     |
| Jewish                | -0.57  | 0.35     | -0.61  | 0.34     |
| Spiritual, not religious | -0.23  | 0.21     | -0.17  | 0.20     |
| Other                 | -0.34  | 0.29     | -0.37  | 0.28     |
| Years worked as a healthcare professional | -0.002 | 0.004 | 0.002 | 0.004 |
| Practice location (vs. Outpt) |           |           |               |           |
| Emergency department  | -0.12  | 0.21     | -0.12  | 0.21     |
| Inpatient acute care  | -0.31  | 0.15     | -0.33* | 0.14     |
| Inpatient critical care | -0.17** | 0.22    | -0.23  | 0.16     |
| Operating room       | -0.32  | 0.16     | -0.24  | 0.22     |
| Multiple locations   | -0.28  | 0.19     | -0.24  | 0.19     |
| Race (vs. White)      |           |           |               |           |
| Asian/Pacific Islander | -0.27  | 0.23     | -0.43  | 0.23     |
| Black/African American | 0.17  | 0.31     | -0.61  | 0.30     |
| Multiple races        | -0.30  | 0.32     | -0.15  | 0.31     |
| Other                 | -0.34  | 0.26     | -0.42  | 0.26     |
| Patient age (vs. adult pt) |           |           |               |           |
| Paediatric/adolescent pt | -0.30** | 0.11    | -0.27** | 0.11    |
| Profession (vs. nursing) |           |           |               |           |
| Chaplain              | -0.98** | 0.34     | -0.64  | 0.33     |
| Physician             | -0.02  | 0.30     | 0.07   | 0.29     |
| Social work           | -0.16  | 0.27     | -0.09  | 0.26     |
| Education (reference associates) |           |           |               |           |
| Bachelor’s            | 0.25   | 0.17     | 0.34*  | 0.17     |
| Master’s              | 0.34   | 0.20     | 0.43*  | 0.19     |
| Doctorate             | 0.12   | 0.33     | 0.15   | 0.32     |
| \( R^2 = .06 \)       |           |           |           |           |
| \( p < .001 \)        |           |           |           |           |

Abbreviations: CI, confidence interval; Outpt, outpatient; pt, patient.

*Included all variables significant at \( p < .05 \) based on individual bivariate analyses; demographics entered as first block, moral resilience factors entered as second block.

\*\( p < .05 \); \*\*\( p < .01 \); \***\( p < .001 \)
3.6 | Turnover intention

High TI for the overall sample was 26.2%, while 46% of respondents reported a low intent to leave their current position. By discipline, chaplains were least likely to report high TI (0%); most reported low intent to leave their current position (77.8%) (Table 4). For nurses, 26.8% reported a high TI, while 44.3% reported a low TI. For physicians, 28.3% reported a high TI, and 50.9% reported a low TI. Finally, among social workers, 30% reported a high TI and 46% reported a low TI.

For the final regression model of TI (Table 5), significant demographic and work characteristics were entered in block 1, which explained 6% of the variability in TI ($p < .001$). TI was lower for those who identified as Christian ($\beta = 0.37 \pm 0.17, p = .04$) compared to no religious preference; working in inpatient critical care ($\beta = -0.17 \pm 0.22, p = .02$) compared to an outpatient setting; working with a paediatric population ($\beta = -0.30 \pm 0.11, p = .01$) as compared to an adult population; and being a chaplain as compared to being a nurse ($\beta = -0.98 \pm 0.34, p = .01$).

Finally, the subscales of moral resilience were added in block 2. Together, the subscales of moral resilience explained 6% ($\Delta R^2 = .06, p = .001$) of the variability in TI over and above the demographic and work characteristics. On average, for every additional point on the Responses to Moral Adversity subscale TI decreased 0.55 points ($\beta = -.55, p < .001$). The subscales Personal Integrity, Relational Integrity and Moral Efficacy were not significantly related to TI after controlling for all other variables in the model.

4 | DISCUSSION

To our knowledge, this is the first study examining predictive factors of burnout and their relation to moral resilience factors in an interdisciplinary sample of healthcare professionals. We examined the demographic and work characteristics of interdisciplinary healthcare professionals associated with DP, EE, PA and TI. We also investigated whether subscales of the RMRS were protective against burnout over and above work and demographic variables and general resilience. Our findings support and build on existing literature regarding the relationship between burnout and resilience (Guo et al., 2018; Mealer et al., 2012; National Academies of Sciences, Engineering, and Medicine, 2019; Rushton et al., 2017), which corroborate fostering moral resilience as an important avenue for reducing the impact of burnout (Burston & Tuckett, 2013; Heinze et al., 2021; Ulrich et al., 2019). Several work and demographic characteristics were associated with EE, DP, PA and TI. Further, the subscales of the RMRS demonstrated a protective relationship with burnout and TI after controlling for work and demographic characteristics, illustrating the importance of this modifiable factor in mitigating burnout among interdisciplinary healthcare professionals.

We found evidence that the four subscales of moral resilience (Responses to Moral Adversity, Moral Efficacy, Personal Integrity and Relational Integrity) are distinct from each other because they demonstrated unique patterns of significant and non-significant relationships across the subscales of burnout and TI. All four subscales were correlated with the subscales of burnout (DP, EE and PA) on a bivariate level. However, after controlling for all work and demographic characteristics, some relationships were insignificant. Higher scores on the Responses to Moral Adversity subscale were associated with less DP, EE and TI, but not PA. Increased scores on Moral Efficacy was protective against DP, but not related to other domains of burnout or TI. Higher Relational Integrity was related to lower EE, but not to other domains of burnout or TI. Our findings highlight that further work is needed to refine the RMRS, while underscoring the importance of considering which subscale is most relevant to a researcher’s question of interest.

4.1 | Demographic characteristics

Our findings echo that all members of the interdisciplinary healthcare professional team experience burnout, which has been associated with burnout and TI (McCain et al., 2018; McHugh et al., 2011; Pines et al., 2014). Scanlan and Still (2019) sampled nurses, physicians, occupational therapists, psychologists and social workers, and found that job satisfaction, TI and burnout were strongly intercorrelated, further emphasising the importance of finding modifiable factors where intervention could be beneficial. Our results were consistent with these findings, whereby all professions experienced some form or level of burnout. Moral resilience and burnout correlated with multiple work and demographic variables.

Religious affiliation was related to some aspects of burnout and TI. Specifically, being Christian versus not being religious was related to lower DP, EE and TI, but not to PA. Those who are ‘spiritual but not religious’ or affiliated with another religious faith (such as Muslim or Buddhist) also had lower DP than those without any religious or spiritual belief system. We did not examine the specific mechanisms that might make having a religious belief system protective against burnout. It is possible that religion, spirituality or other belief systems may be important protective resources. It could also be that relationships with other people gained through participating in religious or spiritual practices could be protective against experiences of burnout. Further research is needed to understand these relationships.

Race was related to burnout but not TI. Healthcare workers who were Black and Asian reported lower EE than those who were White. Black healthcare workers also reported lower perceptions of PA than White healthcare workers. Garcia et al. (2020) analysed a national sample of 4,424 physicians and found that compared with White physicians, Hispanic/Latinx, Black and Asian physicians were less likely to report burnout. Similar to our findings, they found racial and/or ethnic minority physicians experienced decreased EE (Garcia et al., 2020). Addressing structural mechanisms within healthcare systems that contribute to healthcare professionals’ feelings of moral distress and burnout aligns with calls to action to dismantle such structures altogether (American Nurses Association, 2019).
Education was related to burnout and TI. Having a bachelor’s degree as opposed to an associate-level degree was related to greater EE. Compared to those with an associate degree, those with bachelor’s and master’s degrees reported greater TI. It is possible that with increasing education, the burden of making ethical decisions, additional responsibilities for the competence of other clinicians and greater administrative responsibility add to the workload of these healthcare professionals. More work is needed to understand these relationships and to design interventions specifically aimed at meeting such unique challenges.

4.2 Work characteristics

The longer the healthcare professionals had been in their profession, the worse their DP and EE. Time in profession was not related to PA or TI. Our findings differ from other studies, which suggest that younger physicians experience a greater risk of burnout than older physicians (West et al., 2018). Burnout could lead to other negative work outcomes such as lower work performance, patient outcomes or absenteeism (Burston & Tuckett, 2013). The high levels of burnout symptoms among the most experienced members of the healthcare team raise significant concerns about sustainability of the workforce. Without the expertise gained over years of experience, the quality, safety and preparation of the next generation of clinicians are at risk. Experienced clinicians also have a major role in setting the norms, policies and culture within healthcare organisations. If their behaviours related to EE and DP are negatively conveyed to other colleagues, team cohesion, patient dignity and work engagement may be threatened. Increased scores on Relational Integrity, that is ‘preserving personal integrity while being interdependently connected with others whose integrity is also at stake’ (Rushton, 2018, p. 91), resulted in decreased EE. Leveraging interventions aimed at strengthening Relational Integrity among members of the healthcare team may help reduce EE. These findings suggest the importance of mitigating the relationship between years in the profession and burnout and leveraging strategies aimed at cultivating Relational Integrity.

Several work-related factors were related to burnout and TI. Consistent with current literature, we found interdisciplinary healthcare professionals had increased burnout and TI if working in a high-risk setting (emergency department or critical care) (del Carmen et al., 2019; Dunham et al., 2019; Epp, 2012; Kumar, 2016; Losa Iglesias et al., 2013; Maslach et al., 1996; Mealer et al., 2012). Specifically, DP was lower for those working in an outpatient setting versus those in emergency department or inpatient acute care settings. PA was higher and TI lower for those working in an outpatient setting compared with those working in inpatient acute or critical care. Working with paediatric patients was associated with less DP, EE and TI than working with adult patients. Compared with nurses, chaplains reported significantly lower DP, EE and TI. With their strong ties to religion and spirituality, chaplains may use their belief systems as a protective factor. Studies have shown that individuals with religious or spiritual affiliations have lower moral injury scores compared with those without (Jinkerson, 2016). Exploring chaplain perspectives on why they experience less DP, EE and TI, as compared to nurses and all other healthcare professionals, is necessary as it could reveal useful strategies that could be taught across disciplines.

Interdisciplinary healthcare professionals are under a great deal of pressure to deliver high-quality, comprehensive care. Symptoms of burnout are expressed by 35%–45% of nurses (McHugh et al., 2011; Moss & Good, 2016) and up to 40%–45% of physicians (Shanafelt et al., 2015, 2019) in the healthcare environment. Our findings suggest that the moral domain is distinct but inter-related with factors that contribute to burnout. Scores on the Moral Efficacy subscale suggested that it is a protective factor in reducing DP. Strategies that uniquely address the complex moral and ethical dimensions of clinical practice are needed to avoid a ‘one-size-fits-all’ approach by healthcare organisations to offer resources to clinicians. Individuals with higher levels of moral resilience may have unique characteristics and use strategies that one could study and implement organisation-wide. Capacities such as moral resilience can help explain how interdisciplinary healthcare professionals manage to preserve their integrity and well-being under adverse conditions. Instead of suggesting that clinicians are morally deficient or lacking in resilience, strengthening these capacities can build on what is already present to cultivate or restore moral agency, ethical competence and self-regulatory abilities, and foster investment in self-stewardship (Heinze et al., 2021; Rushton, 2018). Developing these skills can help healthcare professionals confront ethical challenges and moral distress at the bedside (Grace et al., 2014; Lang, 2008). Programmes such as the Mindful Ethical Practice and Resilience Academy are an example of organisational commitment to support front-line nurses in developing skills that empower them to address ethical concerns with confidence and competence while preserving integrity (Rushton et al., 2021). In addition, comprehensive programmes can be developed from these findings, allowing for large-scale, interdisciplinary growth in the workplace.

Limitations in the present study include its cross-sectional nature with no control group, so we are not able to infer causal relationships. Additionally, the use of a hierarchical multiple linear stepwise regression and adding moral resilience factors resulted in explaining 34%, 30% and 29% of the variance for DP, EE and PA, respectively. Although we were able to increase the amount of variance explained by adding moral resilience factors in, many additional factors affecting burnout scores among interdisciplinary healthcare professionals were not examined in this study. Demographic information including the participants’ gender and ethnicity was not collected so we could not comment on the association of these demographic characteristics with burnout and TI. There may be domains of moral resilience or burnout that were not captured with study measures. Nonetheless, the present study was strengthened by the inclusion of four types of healthcare professionals (chaplains, nurses, physicians and social workers). Recruiting a large sample of healthcare professionals from both academic and community hospitals in urban and suburban settings provided diverse perspectives on moral resilience and burnout.
However, the majority (75%) of respondents were nurses and this was not a randomised national sample, so generalisation of findings may be limited. Additionally, three of the five hospitals that were sampled were a part of a larger research network and could reflect online surveys may be prone to response bias.

5 | CONCLUSION

Moral resilience is a concept still in its infancy, but there is growing acknowledgement of its importance for healthcare professionals. Through use of a validated measure of moral resilience, this study demonstrated that moral resilience has a protective relationship with burnout and TI. These findings add credence to the unique and consequential importance of harnessing the innate wholeness and resilient capacity of clinicians as a means for mitigating the detrimental consequences of moral adversity (Rushton, 2018). In addition, we found unique patterns of significant and non-significant relationships of the subdomains of moral resilience and burnout, indicating that the subscales represent unique constructs. Further, we found multiple work and demographic correlates with burnout and TI, which will allow for tailored approaches for handling morally distressing situations at the bedside. These interventions must be aligned with and implemented alongside systemic interventions to modify and dismantle the conditions that create moral adversity in the first place.

6 | RELEVANCE TO CLINICAL PRACTICE

Health professional demographics and characteristics are important to consider when identifying individuals at risk for burnout. Moral resilience factors were protective above these characteristics, which can be used to assess or potentially modify the risk our healthcare colleagues possess. Tailored approaches to intervene and cultivate moral resilience in the healthcare environment are necessary for creating and sustaining healthy, adaptable workplaces. As healthcare professionals experience morally distressing situations at the bedside, individual colleagues and organisations must work together to create clinical practice environments that assess and address practical strategies to mitigate burnout and bolster moral resilience while modifying and/or dismantling systemic factors that cause the distress.

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CONFLICT OF INTEREST

None declared.

AUTHOR CONTRIBUTION

Data analysis: IMA, CHR; writing and editing: IMA, CHR, KEN, KH, GCH; conceptualisation of the overall study: CHR; study design: KH; reviewing and editing: SMS.

DATA AVAILABILITY STATEMENT

Research data are not shared.

ORCID

Inga Antonsdottir @ https://orcid.org/0000-0002-8127-5553

TWITTER

Inga Antonsdottir @Antonsdottir_RN

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**SUPPORTING INFORMATION**

Additional supporting information may be found online in the Supporting Information section.

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