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Research paper

Critical care staff wellbeing: A new paradigm for understanding burnout

Liz Crowe, Bach SW, PhD [a, b, *], Jeanine Young AM, RN, PhD [a, b, c], Anthony C. Smith, RN, PhD [b, c, d], Kathryn Vitangcol, MPH, MEpi [a, b], Helen M. Haydon, BPsych, PhD [a, b]

[a] Centre for Online Health, The University of Queensland, Brisbane, Australia; [b] Centre for Health Services Research, The University of Queensland, Brisbane, Australia; [c] School of Nursing, Midwifery and Paramedicine, University of the Sunshine Coast; [d] Centre for Innovative Medical Technology, University of Southern Denmark, Odense, Denmark

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ABSTRACT

Background: The wellbeing of paediatric intensive care unit (PICU) staff members influences their engagement with work and the quality of care they provide to patients. Baseline burnout measures in research provide inconclusive evidence of the determinants of burnout and how to target interventions to promote staff wellbeing.

Objectives: The objectives of this study were to determine the prevalence of burnout using the Maslach Burnout Inventory (MBI) burnout-engagement workplace profiles in a sample of Australian PICU staff and investigate associations between demographic characteristics, meaningful work, satisfaction with life, and psychological distress on burnout.

Methods: A cross-sectional survey was administered to a multidisciplinary sample of PICU staff (target $n = 464$) from three tertiary paediatric hospitals in Australia. The survey tool was comprised of the MBI, Work and Meaning Inventory, Satisfaction with Life Scale, Kessler Psychological Distress Scale, and demographic questions. Hierarchical multiple regressions examined the relationships between burnout and these variables of interest.

Results: A sample of 258 participants (56%) completed the survey. For most respondents, burnout was scored as a low to moderate risk, with over half the participants scoring low risk for emotional exhaustion (EE) (56%) and depersonalisation (DP) (54%). Personal accomplishment (PA) was more evenly distributed (range of burnout risk: low, 32%; moderate, 32%; high, 36%). MBI scores were classified using the burnout-engaged workplace profile system, identifying low levels of burnout (8% burnout, 3% disengaged, 21% overextended, 29% ineffective, and 39% engaged). Psychological distress significantly increased burnout risk across all three dimensions EE ($\beta = 0.253$, $p < 0.001$), DP ($\beta = 0.145$, $p < 0.05$), and PA ($\beta = -0.13$, $p < 0.05$), and being aged between 41 and 55 years was protective of depersonalisation ($\beta = -0.214$, $p < 0.05$).

Conclusion: Utilising MBI workplace profiles, this study has built upon the demand for a more comprehensive assessment of burnout. Research that helps improve our understanding of contributory factors to burnout and wellbeing will inform the development of effective interventions that promote wellbeing of staff.

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1. Introduction

Paediatric intensive care unit (PICU) staff members provide complex and end-of-life care for the most critically ill and injured babies and children and their families.[1] When PICU healthcare professionals have optimal psychological health, the quality of patient care, patient experience, and patient safety is improved.[2] Yet, intensive care staff members have increased risk of psychological problems due to the

* Corresponding author at. Present address: Centre for Online Health, Ground Floor Building 33, Princess Alexandra Hospital, Woolloongabba, QLD, 4102, Australia. Tel.: 07 3176 1865.

E-mail addresses: Liz.Crowe@health.qld.gov.au (L. Crowe), jyoung4@usc.edu.au (J. Young AM), asmith@uq.edu.au (A.C. Smith), Kathryn.Vitangcol@uq.net.au (K. Vitangcol), h.haydon@uq.edu.au (H.M. Haydon).

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constant exposure to grief, trauma, and death,[3–5] with concerns that those who work with children are particularly vulnerable.[6,7]

Despite these concerns, few studies have investigated the prevalence of burnout in PICU staff, and even fewer studies explore potential risk or protective factors associated with burnout.[8] Furthermore, recent dissent from the popular notion of the high risk of burnout in intensive care settings has suggested that the issue of burnout remains 'open for discussion'.[3] What is evident is that there are important clinical and health system impacts when health professionals experience high levels of burnout. Burnout may adversely impact the physical and psychological health of the clinician[9,10] and their professional identity[11] which, in turn, may negatively impact the quality, safety, and satisfaction of patient care[10,12] and staff recruitment and retention.[1,2]

Understanding of PICU staff wellbeing and burnout has been potentially diminished as a result of methodological deficits, including inconsistent use of definitions and measures.[8,13] There is currently little agreement on the definition of wellbeing[14–16] or burnout,[17,18] which arguably leads to oversimplified conceptualisations.[19–21] Over the previous 2 decades, burnout measures have been used to assess the wellbeing of healthcare professionals,[22,23] drawing upon the assumption that burnout and wellbeing are polar opposites on the same continuum. Systematic reviews examining burnout experienced by PICU[8,13] and ICU[3] staff are inconclusive regarding predictors of burnout. Poor methodological approaches to measuring burnout have resulted in wide variance in the reported burnout prevalence and an inability to predict the determinants of burnout in the PICU environment.[8,13]

One of the most reliable and widely used tools for measuring burnout is the Maslach Burnout Inventory (MBI).[10,24] Developers of the MBI have been critical of the myopic use of the tool as the sole indicator of burnout and/or wellbeing.[19] The developers suggest that it is unethical to use the MBI to diagnose individuals when the tool was designed to measure systems.[19,21,25] To address oversimplification and concerns relating to MBI use, Maslach and Leiter proposed a new model for understanding burnout.[25,26] This model provides an extended scoring system for the three MBI dimensions to generate five burnout-engagement workplace profiles that enable the targeting of interventions to mitigate burnout symptoms and burnout.[19,26,27] To date, this model has not been widely utilised.

Current evidence suggests that wellbeing and burnout are each multifactorial and complex.[8,20,28] Literature examining wellbeing and burnout has highlighted the need to consider other psychological factors in order to understand the breadth of the experience associated with burnout and wellbeing.[21,28] Associations have been reported between burnout and factors such as meaning making,[29–31] satisfaction with life,[32,33] and psychological distress.[34] These factors are underexplored in PICU staff research.[8,28] There is a critical need to investigate the prevalence and levels of burnout in PICU staff and examine potential predictors of burnout in order to develop appropriate interventions[28,35] to comprehensively address current issues associated with workforce recruitment and retention.[2,36] Importantly, incorporating the new MBI profile analysis can capture burnout profiles and highlight potential interventions within healthcare systems to mitigate risk and impact of burnout. This study therefore aimed to investigate the prevalence of and risk factors for burnout using the revised burnout-engagement workplace profiles[26] within a representative sample of PICU staff. Furthermore, the potential influence of demographics, meaningful work, satisfaction with life, and psychological distress on burnout was examined.

2. Methods

2.1. Study design

Examination of the literature highlighted the most common potential predictors of burnout. To measure these predictors, a cross-sectional survey was developed utilising several validated measures. The online self-administered survey was piloted by members of a multidisciplinary paediatric emergency department ($n = 20$). This research project was approved by the relevant research and ethics committees (HREC/14/QRCH/40).

2.2. Setting

The study involved staff working in PICUs within three tertiary-level paediatric hospitals situated in Eastern Australian states.

2.3. Participants

Convenience sampling was used to recruit active members of multidisciplinary PICU teams rostered during September–October 2015 for two sample sites and September–October 2016 for one site. Eligible disciplines included nursing, medical, allied health, administration, and ancillary (technicians, chaplains, and ward staff) staff. Participant eligibility included employment in the PICU (>6 months) with a minimum of 60% caseload or employed hours allocated in the PICU.

2.4. Instruments

The survey instrument comprised the following:

1) *Demographic characteristics of participants:* which included gender, age, and years of experience in the PICU.
2) *The MBI[37] 22 items:* The MBI uses a Likert scale (range: 0, never to 6, every day) based on participant responses to various job-related feelings. Three dimensions represent subscales of *Emotional exhaustion* (EE) ($n = 9$ items), *Depersonalisation* (DP) ($n = 5$ items), and Personal Accomplishment (PA) ($n = 8$ items). High scores in EE or DP indicate a risk of burnout. Scores for PA are reversed; a low score indicates risk of burnout. MBI cut-off scores adhered to MBI guide recommendations using the occupational subgroup of medicine. Risk of experiencing high burnout was pro-rated at high≥27 and low ≤18 for EE, high≥10 and low ≤5for DP and high ≤33 and low ≥40 for PA as scores are reversed.[37]
3) *The Work and Meaning Inventory (WAMI)[29] 10 items:* The WAMI has three dimensions: greater good motivation, positive meaning, and meaning making through work; these dimensions are totalled to produce a meaningful work score. The WAMI uses a five-point Likert scale ranging from 0 (totally untrue) through to 5 (absolutely true). The WAMI has strong psychometric characteristics when compared with other meaningful work measures, with high internal consistency (≥0.90) reported in diverse populations.[29,30]
4) *The Satisfaction with Life Scale (SWLS)[38] 5 items:* The SWLS uses a seven-point Likert scale. The SWLS score is then determined as the sum of the item scores, with the scale ranging from 5 (lowest satisfaction score) to 35 (highest satisfaction score). The SWLS has measured life satisfaction within diverse populations and exhibits strong internal consistency and stable coefficients (≥0.80) across the course of time.[39,40]
5) *The Kessler Psychological Distress Scale (K10)[41] 10 items:* The K10 is a validated scale used to measure if a person has been affected by anxiety or depression in the past 30 days.[41,42] The K10 uses a five-point Likert scale ranging from 'none of the time' to 'all of the time', with summed scores ranging from 0 to 50.[41] The K10 has demonstrated strong psychometric validity and consistency over 2 decades[43,44] and has been used previously to investigate the relationship between burnout and psychological distress.[45,46]

2.5. Procedure

A member of the leadership team from each participating PICU emailed eligible staff inviting participation with reminders sent at 2 and 4 weeks. The email contained a participant information sheet and an electronic link to the survey, which was hosted on SurveyMonkey© (www.surveymonkey.com) and enabled anonymous participation. Recruitment occurred over 6 weeks at each site. Submission of the survey was regarded as implied voluntary consent. Participant information also included referral advice to relevant participating hospital employee assistance programs for psychological support if required.

2.6. Data analysis

Analysis was undertaken using IBM SPSS Statistics for Windows, version 22 (IBM Corp:Armonk, NY). The MBI,[37] WAMI,[29] SWLS,[38] and K10[41] were scored according to each instrument's specific manual instructions. The revised MBI scoring[25,26] guided analysis to categorise scores into the burnout-engagement workplace profiles: burnout, ineffective, overextended, disengaged, and engaged.[25] Given the moderately sized sample (n = 258), a standardised (z) score as outlined by Leiter and Maslach (2016) was used to contextualise and normalise scores for the population:[26,47]

- High Emotional Exhaustion (EE) at z = mean+(SD*0.5)
- High Depersonalisation (DP) at z = mean+(SD*1.25)
- High Personal Accomplishment (PA) at z = mean+ (SD*0.10)

These standardised scores were then used to categorise participants into their respective burnout-engagement workplace profiles.

Three separate hierarchical multiple regressions were conducted to assess the predictive ability of meaningful work, life satisfaction, and psychological distress to influence each of the separate burnout dimensions (EE, DP, and PA). Linear correlation analyses were performed to determine predictor significance and order of entry into the regression model. Demographic characteristics of age, gender, and years of experience in the PICU were controlled for in stage one. The WAMI and SWLS were entered as the independent variables for stage two. Psychological distress was then added in stage three.

3. Results

3.1. Participant characteristics

A total of 258 of 464 (n = 56%) staff members completed the entire survey. A power analysis (using G*Power) showed that 258 participant responses were adequate to achieve a power of 0.95, assuming an effect size of 0.2. Participant characteristics are presented in Table 1. The majority of participants in this sample identified as female (n = 223/258, 86%). Around 90% of all participants were less than 50 years of age, with the majority aged 31–50 years (55%). The sample was mainly comprised of experienced staff, with over half (55%) having 6 or more years of PICU experience; a considerable proportion were considered very experienced (17% ≥ 16 years experience).

In a check for sample homogeneity, a Fisher's exact test and a one-way analysis of variance showed no significant differences between the demographic variables across the three participating PICU sites. Data from the three PICU sites were therefore grouped together for analyses.

3.2. Descriptive results of the main variables

3.2.1. Maslach Burnout Inventory

The three dimensions of burnout EE, DP, and PA were measured and analysed as three discrete subscales, consistent with the MBI manual.[37] See Table 2.

Table 2 presents the proportion and the range of risk of burnout experienced within this sample. Most participants scored in the low to moderate range for EE scores (n = 217, 84%) and were at low risk of burnout. Over half (n = 137, 54%) scored in the low range for DP, indicating a low burnout risk, while one in five participants (n = 58, 22%) scored in the moderate range for DP. Almost a quarter of the sample (n = 61, 24%) who scored in the high range for DP also had low PA and therefore a higher risk of burnout. In contrast to the other dimensions of EE and DP, there was a more even distribution of the range of burnout risk for PA, ranging from 32 to 36% of participants scoring across low, moderate, and high risk ranges.

3.2.2. MBI workplace profiles

Resultant MBI scores were used to generate an MBI workplace profile.[26,47] In order to profile participants and standardise scores to a population, standardised z-scores were calculated.[47] Profiles were conceptualised as patterns to illustrate the continuum from burnout to engagement. Fig. 1 presents the proportion of participants stratified by profile. The largest proportion of staff (n = 101, 39%) were classified as engaged. Supplementary Material 1 provides detailed information on these profiles and results.

3.2.3. Results from the independent variables

Group summary scores for the WAMI, SWLS, and K10 are presented in Supplementary Material 2. Results for the independent variables demonstrated that the majority of the participants in the sample were psychologically well. WAMI scores indicated most participants found their work meaningful with a mean score of 36.04 (SD ± 6.04) out of a possible score of 50. Most of the participants were satisfied with their lives, with participants having a mean SWLS score of 25.57 (±SD 6.66) from a potential score of 35. Over half of the participants (n = 143, 57%) screened as 'likely to be psychologically well' on the K10, with a mean score of 19.76 (SD = 6.23). However, of concern is that almost one in 10 participants (n = 22, 9%) were categorised as 'likely to have a severe mental health issue' (22, 9%).

3.3. Regression

Table 3 shows the results of the three regression analyses. For EE, the hierarchical multiple regression revealed that at stage one, demographics did not significantly contribute to the regression model (F = 1.69, p > 0.05) and accounted for 0.56% of the variation.

Table 1
Participant characteristics (n = 258).

Demographics		n (%)	
Gender	Female	223	(86)
	Male	35	(14)
Age (in years)	18–30	90	(35)
	31–50	141	(55)
	51–65	27	(10)
PICU experience* (years)	0–5	114	(45)
	6–15	95	(38)
	16–25	36	(14)
	≥26	8	(3)
	Missing data	5	(2)

PICU, paediatric intensive care unit.

Table 2
Results from the three dimensions of the range of MBI scores (n = 258).

MBI dimension	Low risk n (%)	Moderate risk n (%)	High risk n (%)	Mean (SD)	Scoring of cut-off category for burnout
Emotional Exhaustion (EE)	145 (56)	72 (28)	41 (16)	18.13 (7.54)	Low
Depersonalisation DP (DP)	139 (54)	58 (22)	61 (24)	6.20 (5.58)	Moderate
Personal Accomplishment PA (PA)	83 (32)	83 (32)	92 (36)	35.13 (8.67)	Moderate

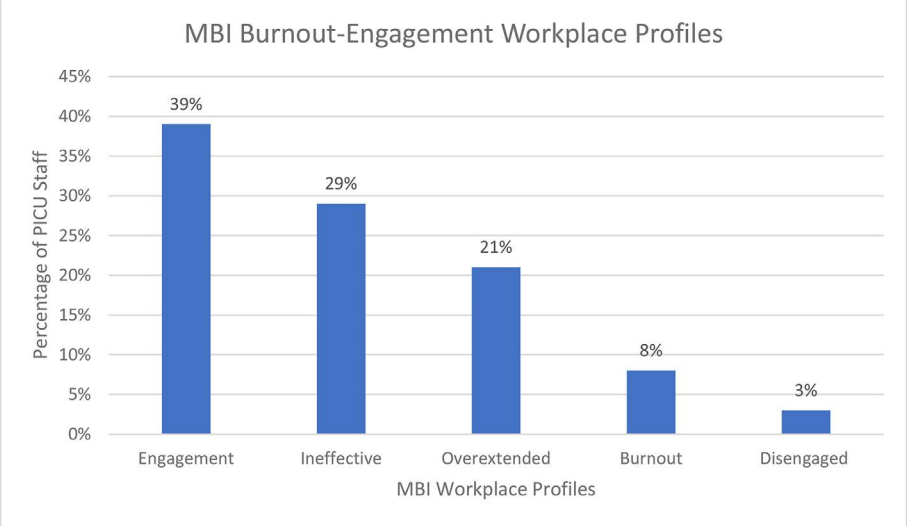

Fig. 1. Mbi burnout-engagement workplace profiles.

Adding the WAMI and SWLS explained an additional 0.06% of variation in EE, but this change in R^2 was not significant ($F = 1.482$, $p > 0.05$). The final addition of the K10 explained an additional 12.3% of the variation in EE, and this change in R^2 was not significant ($F = 2.851$, $p > 0.05$). When all independent variables were included in the final stage of the regression model, neither WAMI nor SWLS was a significant predictor of EE. For each 1-point increase in K10 scores, there is an increase in the EE score by 0.253 ($p < 0.001$), explaining 12.3% of the variation.

The hierarchical multiple regression for DP at stage one revealed that demographics did not significantly contribute to the regression model ($F = 1.648$, $p > 0.05$) and accounted for 0.55% of the variation in DP. The WAMI and SWLS explained an additional 0.9% of variation in DP, but this change in R^2 was not significant ($F = 1.60$, $p > 0.05$). The K10 explained an additional 8.4% of the variation in PA, and this change in R^2 was significant/not significant ($F = 1.863$, $p > 0.05$). When all independent variables were included in the final stage of the regression model, neither WAMI nor SWLS was a significant predictor of DP. For each 1-point increase in K10 scores, there is an increase in the DP score by 0.145 ($p < 0.03$). The final model also showed that being aged between 41 and 55 years remained significantly protective of experiencing DP, decreasing scores by 0.214 ($p < 0.05$).

At stage one, demographics did not significantly contribute to the regression model ($F = 1.02$, $p > 0.05$) and accounted for 3.5% of the variation in PA. Introducing the WAMI and SWLS explained an additional 3.2% of variation in PA, but this change in R^2 was not significant ($F = 1.60$, $p > 0.05$). Finally, adding K10 to the regression model explained an additional 8% of the variation in PA, and this change in R^2 was not significant ($F = 1.84$, $p > 0.05$). When all independent variables were included in the final stage of the regression model, the WAMI was not a significant predictor of PA. For each 1-point increase in K10 scores, there is a decrease in the PA score by 0.13 ($p < 0.05$). Interestingly, higher SWLS scores significantly decreased the PA score by −0.18 ($p < 0.01$). The correlation matrices are presented in Supplementary Materials 4.

4. Discussion

Burnout harms healthcare professionals both physically and psychologically, with implications for patient care.[28,48,49] The prevalence of burnout in this study indicated low to moderate risk of burnout across all three dimensions of burnout in this PICU sample. These scores are consistent with several studies investigating burnout in the PICU conducted in other countries.[49–52] However, these lower rates may be associated with Australian PICU staff receiving a higher award wage and professional development opportunities and working in better resourced environments than those in PICUs in many developed and developing nations.[53]

The use of the MBI burnout-engagement workplace profiles is novel in critical care and provides new insights. Burnout scores are almost always reported as a binary position of presence or absence of risk of burnout.[21] Continued reporting of the MBI in this binary manner has been argued to contribute to the reproduction of ambiguous results[34,54] and delays in the development of evidence-based interventions.[19,23] In this study, MBI workplace profiles demonstrated a spread in the scoring profiles from engaged (39%) to disengaged or burnout (11%). Exploration of burnout using workplace profiles allows a more comprehensive understanding of burnout.

Table 3
Predictors of burnout: Hierarchical multiple regression.

Variable[a]	Demographics: age, gender, and experience Model 1			Meaningful Work (WAMI) and Life Satisfaction (SWLS) Model 2			Psychological Distress (K10) Model 3		
	β	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
MBI- Emotional Exhaustion (EE)									
Female	1.10	1.48	0.05	1.09	1.48	0.05	0.73	1.44	0.03
Age (18–25 years)	2.53	1.84	0.10	2.40	1.85	0.09	1.95	1.80	0.08
Age (41–55 years)	−2.68	1.31	−0.17	−2.55	1.32	−0.16	−2.39	1.28	−0.15
Age (56–65 years)	−4.19	2.52	−0.12	−4.11	2.53	−0.12	−3.16	2.46	−0.09
Time in PICU (<12 months)	−0.96	3.02	−0.05	−1.07	3.05	−0.05	−1.54	2.95	−0.07
Time in PICU (1–5 years)	2.61	2.96	0.15	2.49	2.98	0.14	1.85	2.89	0.11
Time in PICU (6–15 years)	1.89	2.99	0.12	1.66	3.01	0.11	1.23	2.92	0.08
Time in PICU (16+ years)	3.32	3.25	0.16	2.95	3.28	0.15	2.28	3.18	0.11
WAMI				0.087	0.085	0.074	0.078	0.082	0.067
SWLS				0.003	0.082	0.003	−0.036	0.08	−0.032
K10							0.31	0.08	**0.253*****
R^2		0.056			0.062			0.123	
F		1.69			1.482			2.851	
ΔR^2		0.056			0.006			0.061	
ΔF		1.69			0.671			15.582	
MBI - Depersonalisation (DP)									
Female	0.74	1.08	0.05	0.87	1.09	−0.055	0.72	1.08	
Age (18–25 years)	−0.16	1.35	−0.009	−0.004	1.36	0.000	−0.19	1.35	−0.010
Age (41–55 years)	0.5	0.96	−0.226	−2.62	0.96	−0.219	−2.55	0.96	**−0.214****
Age (56–65 years)	−2.16	1.85	−0.082	−2.06	1.85	−0.078	−1.66	1.85	−0.063
Time in PICU (<12 months)	−1.01	2.21	−0.065	−0.62	2.23	−0.040	−0.82	2.22	−0.053
Time in PICU (1–5 years)	−0.283	2.17	−0.022	0.04	2.19	0.003	−0.23	2.17	−0.018
Time in PICU (6–15 years)	−0.31	2.19	−0.027	−0.008	2.21	−0.001	−0.19	2.19	−0.017
Time in PICU (16+ years)	2.94	2.38	0.197	3.16	2.40	0.211	2.88	2.39	0.192
WAMI				−0.03	2.19	−0.031	−0.03	0.06	−0.035
SWLS				0.09	0.06	0.105	0.07	0.06	0.084
K10							0.129	0.06	**0.145***
R^2		0.055			0.064			0.084	
F		1.648			1.533			1.863	
ΔR^2		0.055			0.009			0.020	
ΔF		1.648			1.070			4.901	
MBI- Personal Accomplishment (PA)									
Female	−1.02	1.75	−0.04	−1.42	1.73	−0.06	−1.2	1.70	
Age (18–25 years)	0.75	2.18	0.02	0.25	2.17	0.008	0.52	2.16	0.02
Age (41–55 years)	0.59	1.55	0.03	0.36	1.54	0.02	0.26	1.53	0.01
Age (56–65 years)	7.48	2.99	0.18	7.21	2.96	0.17	6.63	2.95	0.16
Time in PICU (<12 months)	−0.66	3.57	−0.03	−1.85	3.6	−0.07	−1.56	3.54	−0.06
Time in PICU (1–5 years)	−1.30	3.51	−0.06	−2.31	3.49	−0.11	−1.91	3.47	−0.09
Time in PICU (6–15 years)	−1.88	3.54	−0.10	−2.81	3.52	−0.16	−2.56	3.50	−0.14
Time in PICU (16+ years)	−3.85	3.85	−0.16	−4.56	3.83	−0.19	−4.16	3.81	−0.17
WAMI				0.09	0.09	0.07	0.10	0.10	0.07
SWLS				−0.26	0.09	−0.20	−0.24	0.10	**−0.18***
K10							−0.19	0.93	**−0.13***
R^2	0.03			0.06			0.08		
F	1.02			1.60			1.84		
ΔR^2	0.035			0.032			0.016		
ΔF	1.02			3.84			4.00		

Note. K10, Kessler Psychological Distress Scale; PICU, paediatric intensive care unit; SWLS, Satisfaction with Life Score; WAMI, Work and Meaning Inventory. *p < 0.05. **p < 0.01. ***p < 0.001. Numbers in bold depict significant findings.
[a] Reference categories: gender was male and age was 26–40 years.

An ineffective profile was consistent with low scores (36%) in personal accomplishment in this sample. Ineffectiveness and low personal accomplishment frequently result from frustration with organisational systems[25,47] and feeling unappreciated in the workplace.[55] An overextended profile relates to a perceived lack of personal and physical resources to meet role requirements.[25] One in five (21%) participants met an overextended profile. Feeling overextended may relate to a lack of resources associated with inadequate staff-to-patient ratios, not enough experienced staff, a lack of training or equipment, poorly designed systems, or other perceived resource deficits.[25,56,57]

Conversely, almost half of this sample met the criteria for the 'engaged' profile. Engagement indicates energy, efficacy, and involvement, which is regarded as the antithesis of burnout.[25] Maslach and Leiter (2021) proposed that the workplace profiles increase accuracy and provide a more ethical measurement of the employee's relationship and challenges with work within larger systems.[19] This challenges the notion that burnout is a measure of individual deficit.[19] Furthermore, the profiles provide important data to inform targeted interventions to mitigate systemic contributors that create the opportunity for burnout to occur.[19] The strongest recommendation from a recent review of burnout experienced by PICU clinicians is for the development of targeted interventions.[8]

Research suggests that previous use of the MBI scores may oversimplify the duties performed and emotional toll experienced by the critical care healthcare professionals.[34,58] The results of this

current study contribute to recent scholarly discussions that question the appropriateness of burnout measures as the predominant measure of wellbeing for healthcare professionals.[21,54,59]

A 2021 study using the K10 with the general Australian public found twotwo in five (43.7%) Australians have mental health issues,[60] less than the PICU participants. The finding that 10% of PICU participants are 'likely to have a severe mental health issue' is concerning, but less than the prevalence in the Australian general public that has 20% in people aged 16–34 years and 9.6% in those aged over 65 years.[60] Further investigation of psychological distress with critical care staff is recommended.

Results also suggest burnout and psychological distress, meaningful work, and satisfaction with life do not necessarily exist on a simple risk-protection continuum; the interactions between these phenomena appear more intricate. This notion challenges the common assumption that the presence of negative sequelae equates to the absence of wellbeing[61,62] and supports research positing 'wellbeing' for healthcare professionals is complex.[16,58,63]

5. Limitations

While the current study contributed to the understanding of burnout, a more comprehensive exploration of burnout and wellbeing using qualitative methods may provide more depth and detail regarding interventions for wellbeing in critical care. Possible selection bias may have occurred as sampling was voluntary. Further investigation is needed to understand why staff members remain in and resign from the PICU. Data were collected prior to the COVID-19 pandemic which has had significant impact on the wellbeing of staff in critical care.

6. Conclusion

This is the first known study in an intensive care environment to examine the influence of demographic characteristics, meaningful work, life satisfaction, and psychological distress on burnout. This study has built upon the demand for a more comprehensive assessment of burnout, which is essential to understand in the context of longevity and wellbeing of the critical care workforce. Specifically, it has provided a unique contribution to the literature as the first study to examine MBI burnout-engagement workplace profiles. Future research needs to explore what sustains PICU staff wellbeing and if a perception of the work as meaningful has a role. Engaging in qualitative research may contribute to the understanding of contemporary burnout and wellbeing and guide the development of effective interventions that promote sustained wellbeing of health professionals working in the PICU.

Conflict of interest

None.

Credit authorship contribution statement

This research was conducted as part of a doctoral thesis for Dr Liz Crowe. J.Y., H.H., and A.S. were the doctoral supervisors.

Liz Crowe: conceptualisation, methodological design, data collection, formal analysis, data curation, writing of the original draft, writing-review and editing.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.aucc.2022.10.010.

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