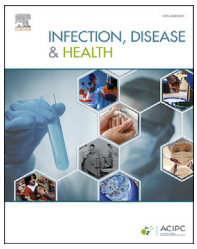
ARTICLE IN PRESS
+ MODEL
Infection, Disease & Health xxx (xxxx) xxx

Available online at www.sciencedirect.com
ScienceDirect
journal homepage: http://www.journals.elsevier.com/infection-disease-and-health/



Research paper

Infection prevention and control professionals: Stress, resilience, personality traits and views about their workforce and profession

Brett G. Mitchell [a,b,c,d,*], **Philip L. Russo** [a,b,e]

[a] *School of Nursing, Avondale University, Cooranbong, New South Wales, Australia*
[b] *Nursing and Midwifery, Monash University, Melbourne, Victoria, Australia*
[c] *Gosford Hospital, Central Coast Local Health District, Gosford, New South Wales, Australia*
[d] *Hunter Medical Research Institute, Newcastle, New South Wales, Australia*
[e] *Cabrini Health, Malvern, Victoria, Australia*

Received 20 June 2024; received in revised form 17 July 2024; accepted 15 September 2024

KEYWORDS
Infection control;
Cross infection;
Staffing;
Workforce

Abstract *Background:* The COVID-19 pandemic placed considerable strain on the infection control professional workforce, who were at the forefront of pandemic response in their organisations and beyond. In order to support infection control professionals and inform future initiatives, it is important to further understand the infection control workforce. The objective of this study was to determine stress and resilience levels, personality traits and workforce intentions of infection control professionals in Australia and New Zealand.
Methods: We undertook an anonymous, cross-sectional online survey of infection control professionals in Australia and New Zealand. Validated tools, the brief resilience tool, workforce stressor tool and the Big Five personality test, were used to evaluate levels of stress, resilience and personality traits.
Results: Three hundred and fifty-six infection control professionals started the survey, with representation from all Australian jurisdictions and New Zealand. The mean stress score was 4.28 (SD 3.39) and 3.34 (SD 0.65) for resilience. Younger participants and those with less experience in infection control had higher levels of stress and lower levels of resilience. Individual personality traits vary by age, level of education and credentialing status. Approximately one-fifth of participants indicated that they planned to leave the IC workforce in the next three years.
Conclusions: Our study was the largest published study involving infection control professionals in Australia and New Zealand. Findings highlight the need for mentoring, peer support and wellbeing initiatives to support the profession. Understanding personality traits may also be beneficial for further enhancing communication and interpersonal relationships.

* Corresponding author. Avondale University, School of Nursing, The Laurels, 582 Freemans Drive (PO Box 19), Cooranbong, NSW 2265, Australia.
E-mail address: brett.mitchell@avondale.edu.au (B.G. Mitchell).

https://doi.org/10.1016/j.idh.2024.09.038
2468-0451/© 2024 The Author(s). Published by Elsevier B.V. on behalf of Australasian College for Infection Prevention and Control. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).

Please cite this article as: B.G. Mitchell and P.L. Russo, Infection prevention and control professionals: Stress, resilience, personality traits and views about their workforce and profession, Infection, Disease & Health, https://doi.org/10.1016/j.idh.2024.09.038

© 2024 The Author(s). Published by Elsevier B.V. on behalf of Australasian College for Infection Prevention and Control. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).

Highlights

- Participants with less experience and who are younger had higher levels of stress.
- Participants with less experience and who are younger had lower levels of resilience.
- Individual personality traits varied by age, level of education and credentialing status.

Introduction

Since the landmark Study on the Efficacy of Nosocomial Infection Control Project in the 1970s, hospitals and health services have taken a proactive approach to establishing infection prevention and control (IPC) services, employing infection control (IC) professionals to undertake a range of activities aimed at reducing the risk of healthcare-associated infection in both patients and staff [1,2]. The COVID-19 pandemic placed considerable strain on the IC professional workforce, which was often at the forefront of pandemic response in their organisations and beyond. Extended periods of high stress are a precursor to burnout, and may affect the delivery of quality care [3]. A complementary approach to exploring stress is understanding resilience. The American Psychological Association defines resilience as the process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional and behavioural flexibility and adjustment to external and internal demands [4]. Resilience is inversely associated with the experience of workplace stress and anxiety [5]. Individual personality traits have also been linked to resilience [6,7]. One approach to identifying personality traits is the Big Five personality trait test. Resilience has been shown to be negatively correlated with neuroticism and positively correlated with the remaining four personality traits (extraversion, openness, agreeableness and conscientiousness) [7].

In order to support IC professionals and inform future initiatives and workforce planning at the government, health service and local levels, it is important to understand the current IPC workforce. Having key workforce information may also help with priority setting and improve support, advocacy and career pathways. Potentially useful workforce information for future planning includes understanding stress, resilience, personality traits and views about the IC profession.

The objective of this study is to describe the levels of stress, resilience, personality traits and workforce views of IC professionals in Australia and New Zealand. A secondary objective is to explore how stress, resilience and personality traits may vary according to geographical location or demographic characteristics such as age, experience and credentialing status. It is the first such study undertaken in Australia and New Zealand.

Methods

Study design

An anonymous, cross-sectional online survey was conducted.

Participants and recruitment

The participants in this study were IC professionals. These included but were not limited to infection control nurses, infection control managers/coordinators, infection control consultants, infectious disease physicians and microbiologists. Eligible participants had to be working in the field of IC and be employed in Australia or New Zealand. A number of options were available to define those working in IC, including those who led or worked in an IC team, consultants, academic researchers in the field and epidemiologists (see supplementary information for additional information).

Potential recruits were invited via two means: through an electronic invitation to members of the Australasian College for Infection Prevention and Control (ACIPC) or through promotion at IC study days, seminars or educational events from April 2023 to October 2023. Incentives were offered to participants to improve response rates. These incentives included a small-value gift card ($30), allocated at random to ten participants who completed the survey, as well as five complimentary registrations to the Lift Project [8].

Data sources

Data collection was conducted via an anonymous online survey using Survey Monkey (see supplementary material). The survey questions are detailed in the supplementary material, and they covered demographic information, resilience, stress, workforce views, the IC profession and the Big Five personality test. Questions in the survey related to resilience were from the validated brief resilience scale [9]. Similarly, the validated Work Stress Screener (Form B: Harmful Stress) was used to determine levels of stress [10]. A maximum score of 15, from five questions, is possible using the Work Stress Screener. The personality test was based on the Big Five personality test

[11]. The revised short form International Personality Item Pool NEO tool was used to determine the personality profiles of the participants. This 120-item measure has been shown to be valid [12].

Statistical considerations

We had no predetermined sample size calculation as an accurate denominator for eligible participants was not possible to determine. No such record or data exists. Our study is cross-sectional and we are presenting data descriptively, not testing a hypothesis. For these reasons, did not prespecify a sample size.

A brief resilience score calculation was determined by coding the responses for each item, as per the literature. The brief resilience score interpretation was 1.00–2.99 for low resilience, 3.00–4.30 for normal resilience and 4.31–5.00 for high resilience [9]. To calculate stress scores, a sum score was calculated from the relevant questions, as per the validated tool. A high score on sub-scale B was suggestive of malignant or harmful stress [10]. The participants' personality profiles were determined automatically from the Big Five personality test. Scores were determined for the five personality traits: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. The Big Five framework is a hierarchical model of personality traits with five broad factors that represent personality at the broadest level of abstraction [13]. The five dimensions of the Big Five are openness to experience, conscientiousness, extraversion, agreeableness and neuroticism.

Data from the survey were analysed descriptively using SPSS. Fisher's exact test was used to compare differences between proportions. Means were compared using a t-test. The median scores for years of experience, age and levels of IPC education were used to determine the threshold for comparisons within these variables. All available data were included in the analysis.

Results

Three hundred and fifty-six IC professionals consented to participate and commenced the survey. For participants who completed the entire survey, on average, it took 19 min to complete. The demographics of the participants are presented in Table 1. There was representation from all States and Territories of Australia, in addition to New Zealand. The majority of responses were from participants who worked in hospitals (57.9 %), followed by those working in aged care (11.2 %). Over 60 % of respondents were leaders or members of an infection control team. Approximately half of the respondents were credentialed with the ACIPC, and a quarter of respondents' highest qualification in IPC was the Foundations in IPC course.

Stress, resilience and personality traits

The mean stress score for all participants was 4.28 (SD 3.39). There were higher levels of stress in participants with fewer than six years of experience compared to those with more experience (4.89, SD 3.32 vs 3.40, SD 3.28), and there were significantly lower levels of stress in those who had a master's degree or higher compared those with lower IPC qualifications (4.74, SD 3.62 vs 3.66, SD 2.92) (Table 2). There were no statistically significant differences in stress scores by the geographical location of participants or the size of the facility (supplementary material).

The mean resilience score was 3.34 (SD 0.65). Those with fewer than six years of experience (3.25, SD 0.56) and those younger than 45 years old (3.19, SD 0.54) had significantly lower levels of resilience compared to those with more experience and those older than 45 years old (Table 2). There were significantly higher levels of resilience in participants who were not credentialed (3.50, SD 0.72) compared to those who were (3.19, SD 0.54) (Table 2). There were no statistically significant differences in resilience scores by the geographical location of participants or the size of the facility (supplementary material).

The personality traits of those who completed the survey indicated low levels of neuroticism and high levels of extraversion, openness to experience, agreeableness and conscientiousness (Table 2). There were some differences in personality traits by age group, credential status and level of IPC education (Table 2). In those younger than 45 years old, there were higher levels of neuroticism and lower levels of extraversion, openness to experience, agreeableness and conscientiousness. Similarly, participants who were credentialed had higher levels of neuroticism and lower levels of openness to experience, agreeableness and conscientiousness. Participants with a master's degree or higher had lower levels of openness to experience, agreeableness and conscientiousness (Table 2).

Workforce and profession

Approximately one-fifth (20.4 %) of the participants indicated that they planned to leave the IC workforce in the next three years (Table 2). More participants indicated they planned to leave who had fewer than six years of experience (24 %), who were younger than 45 years old (22 %) and who were credentialed (24 %). However, 31 % of those not credentialed indicated that they might leave the IC workforce within the next three years. Participants from New Zealand indicated that they were less likely to leave the IC workforce compared to those from Australia (14 % vs 22.6 %). One hundred and six (30.9 %) participants indicated that they planned to retire in the next ten years (Table 2).

With regards to workforce views, the majority of participants indicated that they were satisfied with the level of collaboration between their IC teams and other teams in their organisations, as well as with the relationship between their IPC teams and patient-facing healthcare workers (see supplementary material). Similarly, respondents suggested that that they were satisfied with the level of teamwork in their teams and that COVID-19 enhanced the reputation of IPC in the broader medical, health and scientific communities (see supplementary material).

Table 1 Participant demographics.

Characteristic	Number (%)
Sex (n = 356)	
Male	109 (30.6)
Female	243 (68.3)
Not disclosed	4 (1.1)
Geographical location (n = 356)	
Queensland	19 (5.3)
New South Wales	57 (16.0)
Australian Capital Territory	64 (18.0)
Victoria	48 (13.5)
New Zealand	90 (25.3)
Tasmania	14 (3.9)
South Australia	15 (4.2)
Western Australia	46 (12.9)
Northern Territory	3 (0.9)
Place of work (n = 356)	
Hospital	206 (57.9)
Residential and or aged care	40 (11.2)
Dentistry	14 (3.9)
Other office-based practices	11 (3.1)
Correctional health	11 (3.1)
Consultant (independent/various locations)	10 (2.8)
Government or health department	24 (6.7)
University or research centre	30 (8.5)
Other	10 (2.8)
Role in IPC (n = 356)	
Lead an infection control team and/or program	121 (34.0)
Part of an infection control team	114 (32.0)
Part of your role is infection prevention and control	61 (17.1)
Consultant/independent	17 (4.8)
Epidemiologist or scientist with a role in IPC	32 (9.0)
Other (please specify)	11 (3.1)
Sector (n = 356)	
Public	272 (76.4)
Private	84 (23.6)
Age group (n = 356)	
18–24	7 (2.0)
25–34	69 (19.4)
35–44	131 (36.8)
45–54	81 (22.7)
55–64	57 (16.0)
65+	11 (3.1)
Years working in infection control (n = 356)	
Median[a]	6.0
Interquartile range	2–11
Member of a professional association[b]	
ACIPC	204
IPCNC	80
ASID	74
None	56
Infection control qualifications[b] (n = 437)	
No formal education	46 (10.5)
Foundations in IPC	103 (23.6)
Graduate certificate in IPC	120 (27.5)
Masters in IPC	62 (14.2)
Infectious disease specialisation	47 (10.8)
Microbiology	25 (5.7)
PhD in field of IPC	34 (7.7)
Credentialled (n = 356)	
Not credentialed	169 (47.5)
Credentialled at primary level	70 (19.7)
Credentialled at advanced level	81 (22.7)
Credentialled at expert level	36 (10.1)
Size facility	
Hospital: overnight beds >500	78 (21.9 %)
Hospital: overnight beds 100–499	85 (23.9 %)
Hospital: overnight bed <100	66 (18.5 %)
Residential aged care: resident beds >200	41 (11.5 %)
Residential aged care: resident beds: 50–199	23 (6.5 %)
Residential aged care: resident beds <50	13 (3.7 %)
Office-based practice facility or other facility/facilities	8 (2.3 %)
Don't provide infection control advice/support	8 (2.3 %)
Other	33 (9.3 %)

Note.
[a] Median used as this variable was positively skewed.
[b] The question allowed for multiple responses. Not all those that started the survey answered every question.

Discussion

This paper is the first published report on the stress, resilience, profile across the Big Five personality traits and workforce views of IC professionals in Australia and New Zealand. It is difficult to make direct comparisons on the levels of stress from participants in this study compared to others documented in the literature for other healthcare worker groups due to variations in the tools used to assess stress [14–16]. However, a high score on the tool used in this study is suggestive of malignant or harmful stress [10]. The maximum score on the tool is 24, and the mean score for participants in this study (4.3) is well below this threshold. While organisational culture and stress have been shown to predict nurse turnover [17], there is little research concerning IC professionals specifically. In one study conducted with IC nursing staff in Korea, stress was correlated with staff turnover [18]. The authors concluded that attention to relationship-oriented culture and the importance of positive relationships may help reduce turnover and stress [18]. Interestingly, the majority of participants (55 %) from our study were happy with their collaboration and relationships in their teams and with others. However, the findings also suggest higher levels of stress in participants with less IPC experience.

The mean score for resilience in this study is classified as normal, defined as a score between 3.0 and 4.30 [9]. The results are also similar to those reported in other cohorts, including healthcare workers during the COVID-19

Table 2 Stress, resilience, personality traits and workforce views of participants.

	All participants	Country			Years of experience			Age Group			Hospital or aged care			Credentialed			IC education		p-value
		Australia (n = 257)	New Zealand (n = 86)	p-value	<6 (n = 204)	6 or more (n = 139)	p-value	<45 (n = 199)	≥ 45 (n = 144)	p-value	Hospital (n = 200)	Aged care (n = 38)	p-value	No (n = 162)	Yes (n = 181)	p-value	No formal to GC level (n = 199)	≥ Masters (n = 144)	
Stress score																			
Mean (SD)	4.28 (3.39)	4.21 (3.4)	4.49 (3.30)	NS	4.89 (3.32)	3.40 (3.28)	<0.001	4.54 (3.42)	3.93 (3.33)	NS	4.53 (3.37)	4.89 (2.84)	NS	4.33 (3.59)	4.24 (3.20)	NS	4.74 (3.62)	3.66 (2.92)	0.004
Resilience																			
Mean score (SD)	3.34 (0.65)	3.35 (0.64)	3.30 (0.69)	NS	3.25 (0.56)	3.45 (0.75)	0.006	3.19 (0.54)	3.53 (0.74)	<0.001	3.38 (0.69)	3.33 (0.53)	NS	3.50 (0.72)	3.19 (0.54)	<0.001	3.41 (0.67)	3.23 (0.62)	0.012
Low resilience, n, (%).	91 (26.6 %)	65 (25.3 %)	26 (30.2 %)	–	57 (27.9 %)	34 (24.5 %)	–	58 (29.1 %)	33 (22.9 %)	–	50 (25.0 %)	5 (13.2 %)	–	34 (21.0 %)	57 (31.5 %)	–	46 (23.1 %)	45 (31.3 %)	–
Normal resilience, n, (%).	221 (64.4 %)	169 (65.8 %)	52 (60.5 %)	–	139 (68.1 %)	82 (59.0 %)	–	132 (66.3 %)	89 (61.8 %)	–	130 (65.0 %)	31 (81.6 %)	–	108 (66.7 %)	113 (62.4 %)	–	137 (68.8 %)	84 (58.3 %)	–
High resilience, n, (%).	31 (9.0 %)	23 (8.65)	8 (8.9 %)	–	8 (3.9 %)	23 (16.5 %)	–	9 (4.5 %)	22 (15.3 %)	–	20 (10.0 %)	2 (5.3 %)	–	20 (12.3 %)	11 (6.1 %)	–	16 (8.0 %)	15 (10.4 %)	–
Personality traits																			
Neuroticism, mean (SD).	70 (15)	69.8 (16.6)	70.9 (13.4)	NS	72.0 (14.1)	67.6 (17.7)	0.034	73.9 (15.3)	64.5 (14.8)	<0.001	68.8 (17.1)	71.6 (14.9)	NS	67.2 (17.3)	72.4 (14.3)	0.011	70.1 (18.7)	69.9 (11.1)	NS
Extraversion, mean (SD).	79 (11)	78.7 (10.7)	79.0 (9.8)	NS	77.8 (10.4)	79.6 (10.6)	NS	77.2 (10.1)	80.5 (10.5)	0.015	79.0 (10.6)	79.6 (10.5)	NS	79.2 (12.4)	78.0 (8.6)	NS	79.0 (12.3)	77.9 (7.4)	NS
Openness to Experience, mean (SD).	79 (9)	78.8 (9.2)	78.5 (9.4)	NS	77.7 (9.6)	80.5 (8.6)	.016	76.9 (8.8)	81.9 (14.4)	<0.001	80.2 (9.6)	78.5 (8.4)	NS	81.5 (9.9)	76.9 (8.1)	<0.001	80.6 (9.5)	76.7 (8.3)	<0.001
Agreeableness, mean (SD).	87 (15)	88.5 (15.0)	84.9 (16.4)	NS	86.2 (15.0)	89.6 (15.8)	NS	81.0 (14.4)	97.2 (11.3)	<0.001	91.5 (14.3)	84.7 (14.2)	0.036	98.5 (9.5)	78.7 (13.5)	<0.001	92.6 (14.1)	81.1 (14.8)	<0.001
Conscientiousness, mean (SD).	87 (15)	87.7 (14.7)	85.9 (16.3)	NS	85.8 (14.7)	89.1 (15.2)	NS	82.0 (14.1)	94.8 (12.9)	<0.001	90.5 (13.8)	89.4 (17.2)	NS	95.3 (12.3)	80.7 (13.8)	<0.001	90.9 (14.4)	82.4 (14.5)	<0.001

	All participants	Country		Years of experience		Age Group		Hospital or aged care		Credentialed		IC education	
	(n = 343)	Australia (n = 257)	New Zealand (n = 86)	<6 (n = 204)	6 or more (n = 139)	<45 (n = 199)	≥ 45 (n = 144)	Hospital (n = 200)	Aged care (n = 38)	No (n = 162)	Yes (n = 181)	No formal to GC level (n = 199)	≥ Masters (n = 144)
Do you plan to leave your profession within the next three years?													
Yes n, (%)	70 (20.4 %)	58 (22.6 %)	12 (14 %)	49 (24 %)	21 (15.1 %)	44 (22.1 %)	26 (18.1 %)	33 (16.5 %)	9 (23.7 %)	26 (16.0 %)	44 (24.3 %)	40 (20.1 %)	30 (20.8 %)
No	212 (61.8 %)	154 (59.9 %)	58 (67.4 %)	120 (58.8 %)	92 (66.2 %)	127 (63.8 %)	85 (59.0 %)	126 (63 %)	24 (63.1 %)	86 (53.1 %)	126 (69.6 %)	113 (56.8 %)	99 (68.8 %)
Maybe	61 (17.8 %)	45 (17.5 %)	16 (18.6 %)	35 (17.2 %)	26 (18.7 %)	28 (14.1 %)	33 (22.9 %)	41 (20.5 %)	5 (13.2 %)	50 (30.9 %)	11 (6.1 %)	46 (23.1 %)	15 (10.4 %)
Do you plan to retire within the next 10 years?													
Yes	106 (30.9 %)	58 (22.6 %)	12 (14 %)	56 (27.5 %)	50 (36 %)	42 (21.1 %)	64 (44.4 %)	56 (28 %)	11 (29 %)	52 (32.1 %)	54 (29.8 %)	61 (30.7 %)	45 (31.3 %)
No	205 (59.8 %)	154 (59.9 %)	58 (67.4 %)	130 (63.7 %)	75 (54 %)	141 (70.9 %)	64 (44.4 %)	126 (63 %)	20 (52.6 %)	96 (59.3 %)	109 (60.2 %)	118 (59.3 %)	87 (60.4 %)
Maybe	32 (9.3 %)	45 (17.5 %)	16 (18.6 %)	18 (8.8 %)	14 (10 %)	16 (8 %)	16 (11.2 %)	18 (9 %)	7 (18.4 %)	14 (8.6 %)	18 (10 %)	20 (10.0 %)	12 (8.3 %)

pandemic (mean score 3.4) [19] and undergraduate nurses (mean score of 3.6) [20]. There were, however, lower levels of resilience in those with less experience and those who were younger in age. These findings, in conjunction with previous findings related to stress, have potential implications for how less experienced IC professionals can be supported by the broader profession. Since this study was conducted, a mentorship scheme by ACIPC has been introduced to help support growth and development. Research has shown that providing adequate social support within the workplace through initiatives such as peer support groups can mitigate the negative impact of stress on healthcare workers and foster resilience [21,22]. Other initiatives that could be considered by employers include mindfulness-based interventions and strategies aimed at improving work-life balance [23,24].

A study from South Korea suggests that to help decrease stress and increase the resilience of IC professionals, systematic training courses and education programs for new infection control nurses are needed [25]. In Australia, professionals new to the IC profession are able to undertake a foundational course. There may be an opportunity to include evidence-based initiatives in that course to help improve resilience. The same applies to universities offering infection control courses and to professional societies such as ACIPC. There is a growing body of evidence suggesting ways to achieve this in the higher education sector [26—28].

The personality traits of extraversion, openness to experience and agreeableness are commonly found in nurses [29], which is consistent with the findings of this study. In a study of nurses and physicians, high levels of neuroticism were positively correlated with stress [30]. Conversely, higher levels of extraversion, agreeableness, openness and conscientiousness have been associated with lower stress levels and are potentially protective factors [30]. Studies of healthcare workers have attempted to identify the personality traits best suited for the profession. In a study of nurses, extraversion has also been shown to be an advantageous trait to reduce the potential for burnout [31]. In another study, attributes of openness to experience and agreeableness have been suggested as traits well suited to emergency nursing [29]. Further research in the area of IPC is needed to explore what traits might be associated with success or longevity in the profession. Within IPC teams and at a personal level, there might also be some benefit to understanding personality traits. These may include promoting effective communication and collaboration by providing insights into individual preferences, communication styles and work approaches. Awareness of personality profiles may also foster empathy and mutual understanding, enhancing team cohesion and reducing conflicts [32,33]. Self-awareness of personality may lead to improved interpersonal relationships, making individuals more adept at adapting communication styles and behaviours. It may also be beneficial for self-reflection, insight, reflection, rumination and mindfulness [34,35].

This study has limitations. It was difficult to determine a suitable response rate for this study as the exact number of people working in IPC in Australia and New Zealand is not known. However, this survey had a larger number of participants compared to other similar studies [36—39]. Other limitations include the cross-sectional nature of the study's design, meaning that the results should not be interpreted as cause and effect. The number of credentialed ICPs reported in our study is unable to be validated. Additionally, there were differences in response rates between Australia and New Zealand, as well as varying approaches to COVID-19 response. Finally, the timing of this survey, which occurred 12 months after most COVID-19 restrictions had lifted, should be considered when interpreting the findings. There were different approaches to infection control during the COVID-19 pandemic in different settings, for example, hospitals and aged care, as well as different restrictions across jurisdictions. Further, some settings and jurisdictions faced prolonged outbreaks and lockdowns. The impact these have on our findings, if any is unknown.

The results from this study suggest that IC professionals have similar levels of stress and resilience to other comparable cohorts. However, those with less experience and those younger in age appear to have higher levels of stress and lower levels of resilience. As a broad group, IC professionals appear to have low levels of neuroticism and high levels of extraversion, openness to experience, agreeableness and conscientiousness. Personality traits varied, however, by age group, highest level of IPC education and credential status. The findings from this study highlight the need for mentoring, peer support and wellbeing initiatives to support the profession. Understanding personality traits may also be beneficial for further enhancing communication and interpersonal relationships.

Ethics

Ethics approval for this study was granted by XXX HREC, approval number ETH.2023.001. Informed consent was obtained from the participants.

Authorship statement

BM conceived the idea and was primarily responsible for data collection and analysis. All authors contributed to the critical review of the paper.

Conflict of interest

Two authors have an editorial affiliation with the journal. They played no role whatsoever in the peer review process or decisions relating to this paper.

Funding

There was no specific funding source for this project. The lead author funded the costs of this research through their own funds. Complimentary access to the Lift Project was provided as in-kind support by the Director, Professor

Darren Morton. BM is a recipient of a NHMRC Investigator Grant (GNT 2008392).

Provenance and peer review

Not commissioned; externally peer-reviewed.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.idh.2024.09.038.

References

[1] Mitchell BG, Hall L, MacBeth D, Gardner A, Halton K. Hospital infection control units: staffing, costs, and priorities. Am J Infect Control 2015;43(6):612—6.
[2] Haley RW, Culver DH, White JW, Morgan WM, Emori TG, Munn VP, et al. The efficacy of infection surveillance and control programs in preventing nosocomial infections in US hospitals. Am J Epidemiol 1985;121(2):182—205.
[3] Williams ES, Manwell LB, Konrad TR, Linzer M. The relationship of organizational culture, stress, satisfaction, and burnout with physician-reported error and suboptimal patient care: results from the MEMO study. Health Care Manag Rev 2007;32(3):203—12.
[4] American Psychological Association. APA dictionary of psychology. American Psychological Association; 2018.
[5] Curtin M, Richards HL, Fortune DG. Resilience among health care workers while working during a pandemic: a systematic review and meta synthesis of qualitative studies. Clin Psychol Rev 2022;95:102173.
[6] Mendoza Bernal I, Sánchez-Teruel D, Robles-Bello MA, Sarhani-Robles A, Sarhani-Robles M. Predictors of resilience in healthcare workers during the COVID-19 pandemic: a longitudinal study comparing the first and second waves. BMC Psychology 2023;11(1):143.
[7] Oshio A, Taku K, Hirano M, Saeed G. Resilience and Big Five personality traits: a meta-analysis. Pers Indiv Differ 2018;127:54—60.
[8] Morton D. The Lift Project. https://www.theliftproject.global/. [Accessed 11 November 2023].
[9] Smith BW, Dalen J, Wiggins K, Tooley E, Christopher P, Bernard J. The brief resilience scale: assessing the ability to bounce back. Int J Behav Med 2008;15:194—200.
[10] Sweetman J, van der Feltz-Cornelis CM, Elfeddali I, de Beurs E. Validation of the work stress screener (WOSS-13) and resilience at work scale (ReWoS-24). J Psychosom Res 2022;160:110989.
[11] Costa Jr PT, McCrae RR. The revised neo personality inventory (neo-pi-r). Sage Publications, Inc; 2008.
[12] Maples JL, Guan L, Carter NT, Miller JD. A test of the international personality item Pool representation of the revised NEO personality inventory and development of a 120-item IPIP-based measure of the five-factor model. Psychol Assess 2014;26(4):1070.
[13] Gosling SD, Rentfrow PJ, Swann WB. A very brief measure of the Big-Five personality domains. J Res Pers 2003;37(6):504—28.
[14] Healy CM, McKay MF. Nursing stress: the effects of coping strategies and job satisfaction in a sample of Australian nurses. J Adv Nurs 2000;31(3):681—8.
[15] Lim J, Bogossian F, Ahern K. Stress and coping in Australian nurses: a systematic review. Int Nurs Rev 2010;57(1):22—31.
[16] Maharaj S, Lees T, Lal S. Prevalence and risk factors of depression, anxiety, and stress in a cohort of Australian nurses. Int J Environ Res Publ Health 2019;16(1):61.
[17] Coomber B, Barriball KL. Impact of job satisfaction components on intent to leave and turnover for hospital-based nurses: a review of the research literature. Int J Nurs Stud 2007;44(2):297—314.
[18] Choi JS, Kim KM. Effects of nursing organizational culture and job stress on Korean infection control nurses' turnover intention. Am J Infect Control 2020;48(11):1404—6.
[19] Croghan IT, Chesak SS, Adusumalli J, Fischer KM, Beck EW, Patel SR, et al. Stress, resilience, and coping of healthcare workers during the COVID-19 pandemic. J Prim Care Community Health 2021;12:21501327211008448.
[20] Nichols LS, Pollio E, Fifolt M, Shirey MR. Building a practice ready and resilient nursing workforce. Nurs Adm Q 2024;48(2):127—38.
[21] Peterson U, Bergström G, Samuelsson M, Åsberg M, Nygren Å. Reflecting peer-support groups in the prevention of stress and burnout: randomized controlled trial. J Adv Nurs 2008;63(5):506—16.
[22] Agarwal B, Brooks SK, Greenberg N. The role of peer support in managing occupational stress: a qualitative study of the sustaining resilience at work intervention. Workplace Health & Saf 2020;68(2):57—64.
[23] Burton A, Burgess C, Dean S, Koutsopoulou GZ, Hugh-Jones S. How effective are mindfulness-based interventions for reducing stress among healthcare professionals? A systematic review and meta-analysis. Stress Health 2017;33(1):3—13.
[24] Zhang D, Lee EKP, Mak ECW, Ho CY, Wong SYS. Mindfulness-based interventions: an overall review. Br Med Bull 2021;138(1):41—57.
[25] Cha K-S, Lee HS. Relationships between job satisfaction, resilience and job stress among infection control nurses. Journal of muscle and joint health 2019;26(3):251—60.
[26] Woolf S, Zemits B, Janssen A, Knight S. Supporting resilience in first year of university: curriculum, consideration and cooperation. Journal of Academic Language and Learning 2019;13(1):A108—23.
[27] George M, Brown T, Yu M-L. The relationship between resilience, reflective thinking and professionalism in Australian undergraduate occupational therapy students. Scand J Occup Ther 2022;29(3):229—41.
[28] Brewer ML, Van Kessel G, Sanderson B, Naumann F, Lane M, Reubenson A, et al. Resilience in higher education students: a scoping review. High Educ Res Dev 2019;38(6):1105—20.
[29] Mason R, Roodenburg J, Williams B. What personality types dominate among nurses and paramedics: a scoping review? Australasian Emergency Care 2020;23(4):281—90.
[30] Ceobanu MC, Mairean C. The relation between personality traits, social support and traumatic stress. Revista Cercetare şi Intervenţie Socială 2015;48:17.
[31] Ecie MT. Relationships among nursing burnout, the big five personality factors, and overall self-concept: the impact of assessing common method variance. The University of Tennessee at Chattanooga; 2013.
[32] Jordan PJ, Ashkanasy NM. Emotional intelligence, emotional self-awareness, and team effectiveness. In: Linking emotional intelligence and performance at work. Psychology Press; 2013. p. 145—64.
[33] Wan Q, Jiang L, Zeng Y, Wu X. A big-five personality model-based study of empathy behaviors in clinical nurses. Nurse Educ Pract 2019;38:66—71.

[34] Klussman K, Curtin N, Langer J, Nichols AL. The importance of awareness, acceptance, and alignment with the self: a framework for understanding self-connection. Eur J Psychol 2022;18(1):120—31.
[35] Sutton A. Measuring the effects of self-awareness: construction of the self-awareness outcomes questionnaire. Eur J Psychol 2016;12(4):645—58.
[36] Hall L, Halton K, MacBeth D, Gardner A, Mitchell BG. Roles, responsibilities and scope of practice: describing the state of play for infection control professionals in Australia and New Zealand *Healthc Infect* 2015;20:29—35.
[37] Browning S, Davis JS, Mitchell BG. Have gloves and gowns had their day? An Australian and New Zealand practice and attitudes survey about contact precautions for MRSA and VRE colonisation. Infection, Disease & Health 2023;28(3):221—5.
[38] Sotomayor-Castillo C, Nahidi S, Li C, Macbeth D, Russo PL, Mitchell BG, et al. Infection control professionals' and infectious diseases physicians' knowledge, preparedness, and experiences of managing COVID-19 in Australian healthcare settings. Infection, Disease & Health 2021;26(4):249—57.
[39] Curtis SJ, Trewin A, McCormack LM, Were K, McDermott K, Walsh N. Building a safety culture for infection prevention and control adherence at Howard Springs: a workplace survey. Infection, Disease & Health 2023;28(1):47—53.