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## Research

# Student paramedic stigma towards people with mental illness: an international study

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## Abstract

### Objective

Stigma towards mental illness has been described in many health professions at the undergraduate level, but not in the discipline of paramedicine. The objective of this research was to describe levels of stigma towards people with mental illness as self-reported by undergraduate paramedicine students in Australia, Finland, New Zealand and South Africa.

### Design

Using a cross-sectional design, an online survey was administered consisting of a validated instrument measuring self-reported stigma levels.

### Setting

Four undergraduate paramedicine university programs in Australia, New Zealand, Finland and South Africa.

### Method

The Opening Minds Scale for Health Providers (OMS-HC) is a validated, 20-item instrument measuring self-reported stigma. The 20 OMS-HC items were summed and generalised linear models with log link and Poisson family were used to examine associated factors.

### Results

The overall level of self-reported stigma across students from all countries was 53, on a scale ranging from 20 ('least stigmatised') to 100 ('most stigmatised'). Compared with the Australian cohort, total stigma scores increased significantly by 8% in New Zealand ( $p=0.01$ ), 15% ( $p<0.001$ ), and 18% in South Africa ( $p=0.002$ ). Subscale analysis revealed high scores for social distance as a construct of stigma more broadly.

### Conclusion

The findings provide an important baseline that can be used by paramedicine programs to inform development of mental healthcare curricula seeking to reduce stigma during the formative undergraduate years of professional development. The findings can be applied in a teaching and learning setting as source material to stimulate discussion and promote student self-reflection in a range of teaching activities.

### Keywords:

paramedic; mental illness; paramedic education

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## Introduction

Mental illness represents a substantial challenge for healthcare systems regardless of country or culture. Approximately 11–18% of people globally have at least one mental health or substance disorder, while global prevalence of mental illness specifically is estimated to be 17.6% and 29.2% for 12-months and lifetime, respectively (1,2). In Australia, 12-month prevalence for mental illness is estimated at 20%, resulting in significant impact on acute and emergency healthcare services. In 2018 there were 276,954 mental illness related presentations to Australian emergency departments over a 12-month period, 44% of whom arrived by ambulance. In New South Wales alone, mental illness-related presentations account for up to 6% annual emergency ambulance caseload.

While major investment in mental healthcare infrastructure and services has been made in order to optimise healthcare to this population, a key barrier to people with mental illness receiving quality healthcare is healthcare-worker stigma towards them (3). A universally accepted definition of stigma has proven elusive, however stigma can be described as ‘the co-occurrence of labelling stereotyping, separation, status loss, and discrimination in a situation where power is exercised’ (4). Stigma can be conceptualised as a phenomenon resulting from issues in three key areas: knowledge (ignorance), attitudes (prejudice) and behaviour (discrimination) (5). While on first thought it might appear logical that healthcare workers would have a greater understanding of mental illness and therefore reduced levels of stigma, research indicates that stigma in healthcare workers is no less than that which is seen in society more broadly (6-9).

Stigma from healthcare workers towards people with mental illness is associated with misdiagnosis, undertreatment, reduced access to care and longer delays in receiving care (3,10-13). High levels of healthcare worker stigma have been reported in professions including medicine, nursing, psychiatry, mental health and social work (6,8,14,15). In the context of paramedicine there is a small body of research describing care of patients with mental illness (16-22), however none report on stigma specifically and only one discusses attitudes of paramedics towards mental illness.

At the undergraduate student level, stigma has been demonstrated to be present in students across many healthcare disciplines (23-38). Three of these explored undergraduate student paramedic attitudes, but none specifically addressed or quantified stigma itself (36-38). While an assumption might be made that quality undergraduate education would reduce stigma by increasing knowledge and exposure to mental illness, there is evidence that traditional teaching methods in healthcare programs may inadvertently increase stigma levels (39). Addressing stigma during university education is vital as there appears to be a higher level of plasticity in student attitudes and opinions compared to what is present in the first few years of clinical practice (5,32). Understanding stigma levels in the

student population then allows development of evidence-based curricula aimed at reducing stigma and a baseline against which to measure curriculum effectiveness.

Given the gap in knowledge relating to stigma levels in paramedicine students and the impact of undergraduate education on student attitudes towards people with mental illness, the aim of this descriptive study was to describe the self-reported stigma levels of first-year undergraduate student paramedics studying in four countries.

## Methods

### Setting

This cross-sectional study was conducted in four undergraduate paramedicine degree programs, one each in Australia, South Africa, Finland and New Zealand. There are some structural differences across the programs that should be recognised. The Finnish and South African programs are 4 years in duration, compared to 3 years for Australia and New Zealand. The Finnish program is a combined nursing and paramedicine degree, while the South African course incorporates a significant amount of ‘rescue’ and ‘technical’ content that is absent in the other programs. All programs include a dedicated mental health subject, and all provide an elective opportunity for clinical placement in community mental health settings in addition to standard ambulance service placements. As there are multiple institutions in each country providing undergraduate paramedicine education, selection of the participating institutions was via convenience based on existing academic collaborations.

### Participants

Participants were first-year paramedicine students. First-year students were selected as none had undertaken any coursework in their current degree relating to mental health care and management of people with mental illness. There were no inclusion or exclusion criteria other than the requirement to be enrolled in the first year of a paramedicine degree at one of the four participating universities.

### Recruitment

Recruitment was undertaken via email invitation distributed to first-year students in each country, sent from a generic email address set up specifically for recruitment purposes. Study promotion and recruitment were performed by an external research assistant, allowing members of the research team who were also academics at the sites to stay at ‘arm’s length’ from participants.

### Instrument

Data were collected using the Opening Minds Scale for Health Providers (OMS-HC) (40). The OMS-HC is a self-reported survey instrument designed to measure attitudes and behavioural intentions of healthcare providers towards persons with mental illness. It is well validated and has been used to measure stigma in a number of health professions, allowing

comparison of these data with those resulting from this present study (41). The OMS-HC consists of 20 items, each having the following balanced response values: 'strongly agree', 'agree', 'neither agree nor disagree', 'disagree', 'strongly disagree', such that each item is assigned a score of 1 to 5. For 13 of the 20 items, high scores suggest a more stigmatising attitude; seven items are negatively phrased meaning that lower scores equate to higher stigma. The lowest possible overall score is 20 ('least stigmatised') and the highest is 100 ('most stigmatised').

The total stigma scores were calculated by summing all the 20 OMS-HC items. For the seven negatively worded items (items 3, 8, 9, 10, 11, 15 and 19) reverse coding was used for scoring. Five additional questions were asked in the survey, ascertaining participant gender (Male/Female/Other), age in 5-year increments (17–20 years, 21–24 years, 25–28 years, and 29 years and older), previous healthcare experience (Yes/No), previous healthcare study (Yes/No), and previous diagnosis of a mental illness (Yes/No).

There are three sub-scales within the OMS-HC scale: 'Attitudes of healthcare providers towards people with mental illness' (OMS-HC items 1, 12, 13, 14, 18, 20), 'Disclosure and help-seeking' (items 4, 6, 7, 10) and 'Social distance' (3, 8, 9, 17, 19). 'Attitude' generally focusses on healthcare worker attitudes in relation towards mental illness. These attitudes include matters such as regard for those who suffer from mental illness. 'Disclosure and help-seeking' involves personal feelings related to declaring and seeking care regarding their own mental illness if it were to be present. 'Social distance' involves the healthcare workers indicating whether or not persons with mental illness should form a normal part of societal activities (eg. employment, community involvement). A preference for greater social distance from those with mental illness is associated with greater stigma.

### Data collection

Data collection occurred between September 2017 and January 2018. Once a student elected to participate, they followed the web-link to access the survey at which point they confirmed their informed consent by responding to an initial confirmatory survey question. The survey was completed on a secure online platform. Students responded to the survey with complete anonymity to protect their privacy and could only complete the survey once.

## Analysis

Data analysis was performed using Stata version 14.1 (Stata Corp, College Station, TX, USA). Preliminary analyses involved frequency count of all selected confounding factors. Descriptive statistics were used to calculate mean, standard deviation and their 95% confidence intervals (CIs) of each of the 20 OMS-HC items by the four institutes, and for each of the three subscales. This was followed by ANOVA to determine if the total stigma scores differed by country and pairwise comparisons using Tukey's post-hoc test. Preliminary analysis showed that the

total stigma scores (count variable with non-negative integer values) for the full 20-item instrument were skewed. As this violated ordinary linear regression assumptions, generalised linear models with the log link and Poisson family was used in the analysis (42,43). Univariate generalised linear models with the log link and Poisson family was performed to examine the unadjusted odds ratio (OR) and their 95% CI. Multiple generalised linear model analysis with the log link Poisson family was used to estimate the adjusted odd ratios after adjusting for potential confounding factors. The generalised linear model for both univariate and multivariate estimates were translated into OR and their 95% CIs because this study was a cross-sectional design (44). Statistical significance was set at 0.05.

## Ethics

Ethical approval was sought from and subsequently granted by the Western Sydney University Human Research Ethics Committee (HREC) (Approval H 11979), with reciprocal approval as required within the other three institutions' guidelines.

## Results

At the conclusion of the survey period 124 students had participated across the four institutions in four countries, an overall response rate of 54% (124/229). Response rates varied considerably across sites. The smaller cohort of eligible students in Finland attracted a 100% response, followed by New Zealand (40/55; 73%), Australia (44/107; 41%) and South Africa (8/35; 23%).

Table 1. Characteristics of participants (n=124)

Variable	n	%
<b>Country of study</b>		
Australia	44	35.5
Finland	32	25.8
South Africa	8	6.5
New Zealand	40	32.3
<b>Age in category (years)</b>		
17-20	64	51.6
21-24	34	27.4
25-28	15	12.1
29+	11	8.9
<b>Gender</b>		
Female	76	61.3
Male	48	38.7
<b>Previous healthcare study</b>		
Yes	35	28.2
No	89	71.8
<b>Previous healthcare work</b>		
Yes	28	22.6
No	96	77.4
<b>Previous diagnosis of mental illness</b>		
Yes	18	14.5
No	106	85.5

Table 1 presents characteristics of the study population. Approximately one-third (35.5% and 32.3%) of the population were from Australia and New Zealand respectively. A total of 79% of participants were less than 25 years of age; 61.3% were female. The majority of the participants had no previous healthcare study, no previous healthcare work and no previous diagnosis of mental illness.

Responses to each OMS-HC item overall and by country of study are described in Table 2.

The Finnish cohort reported the highest level of overall stigma (Figure 1a), followed by South Africa, New Zealand and Australia, however these differences were not statistically significant ( $p=0.09$ ). For the subscale of 'attitudes towards people with mental illness', Finnish students reported the highest level of stigma (Figure 1b) and Australian students the lowest. There was a significant difference between the Finnish and Australian cohorts ( $p<0.001$ ) and between Finnish and New Zealand cohorts ( $p=0.007$ ). For the subscale 'disclosure and help-seeking', Finnish students reported the highest overall score, and South Africa the lowest. There was no significant difference by country of study (0.22). For the subscale measuring 'social distance', South African students reported the highest scores, and Finnish students the lowest. There was no significant difference across according to country of study ( $p=0.86$ ).

Table 3 illustrates univariate and multivariate regression

modelling. After adjusting for potential confounding factors, regression analysis revealed that compared with the Australian cohort, the total stigma scores increased significantly by 8% in New Zealand (95% CI 2–15;  $p=0.01$ ), 15% in Finland (95% CI 8–23;  $p<0.001$ ), and 18% in South Africa (95% CI 6–30;  $p=0.002$ ).

There was an association between student age and stigma. Compared with participants aged 17–20 years, those aged 21–24 years and 25–28 years were significantly more likely to report higher total stigma scores (AOR=1.12; 95% CI 1.05–1.18;  $p<0.001$  for 21–24 years) and (AOR=1.08; 95% CI 1.00–1.17;  $p=0.038$  for 25–28 years). There was an association between respondents having a mental illness and stigma. Students with no personal diagnosis of a mental illness themselves were significantly less likely to report higher stigma scores compared to those with (AOR=0.92; 95% CI: 0.86–0.98,  $p=0.015$ ). There was no difference in stigma according to gender (AOR 1.00; 95% CI 0.95–1.05;  $p=0.9$ ). There were trends towards higher stigma among students who had previously engaged in healthcare-related study or employment, though these did not reach statistical significance.

## Discussion

This cross-sectional survey of undergraduate students represents the first exploration of stigma towards people with mental illness in the context of the discipline of paramedicine. These data provide new insights into student attitudes,

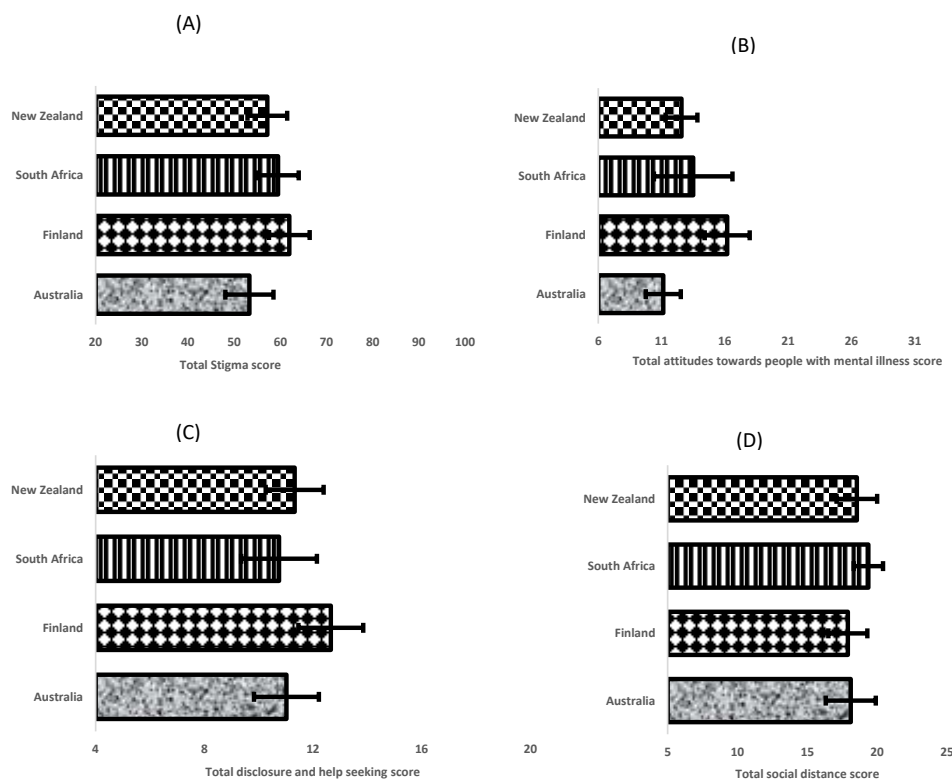


Figure 1. Mean score and 95% confidence interval for overall 20-item OMS-HC (stigma) and subscales by country of study

perceptions and behaviours towards people with mental illness and establish an important baseline that can be used as a reference point for future research exploring effectiveness of initiatives or interventions aimed at reducing stigma in undergraduate education.

The overall mean stigma score of 53 on a scale of 20 to 100 across the institutions from all four countries is difficult to contextualise as there is little comparative data using the same instrument in the context of qualified or student paramedic populations. However, the OMS-HC has been used to measure stigma in student populations from other disciplines. Patton et al reported a mean stigma baseline OMS-HC score of 47 among a population of Canadian third- and fourth-year pharmacy students (35), while Papish et al reported a mean score of 48 in their cohort of postgraduate medical students in the United States (5). These cohorts appear slightly less stigmatised. However, comparisons must be undertaken with caution due to the varying years of study and differing disciplines in those study populations. The stigma score in the present study constitutes a 'start of study' baseline, whereas the results described by Papish and Patten arose from more experienced student populations and served as baseline measures before

implementing educational interventions aimed at reducing stigma (5,35).

While not measuring stigma specifically, two studies have investigated attitudes and/or perceptions of student paramedics towards mental illness. Edmund et al explored Australian students' perception of mental illness and the skills required to manage mental health presentations, reporting the cohort held common myths and misconceptions relating to mental illness combined with inadequate or general knowledge about mental illness and paramedic management of it (37). Boyle et al measured the attitudes of 548 undergraduate students towards intellectual disability, mental illness and substance abuse using the Medical Condition Regard Scale, finding paramedic students were found to have the highest regard toward mental illness compared to their inter-disciplinary peers (36).

In the present study, we found that compared to the youngest students aged less than 20 years, those aged in their early-to-mid-20s were most likely to report high stigma scores. Stigma decreased as age increased, returning to levels comparable to the youngest reference group from 30 years of age. It is unclear as to why stigma peaked in the 21 to 29 years age group then

Table 3. Factors associated with OMS-HC overall stigma level: unadjusted and adjusted odd ratios

Variable	Univariate				Multivariate			
	OR	95% CI	P value	AOR	95% CI	P value		
<b>Country of study</b>								
Australia	1.00			1.00				
Finland	1.16	1.09	1.23	<0.001	1.15	1.08	1.23	<0.001
South Africa	1.12	1.01	1.23	0.028	1.18	1.06	1.30	0.002
New Zealand	1.07	1.01	1.14	0.017	1.08	1.02	1.15	0.010
<b>Age in category (years)</b>								
17-20	1.00			1.00				
21-24	1.15	1.09	1.22	<0.001	1.12	1.05	1.19	<0.001
25-28	1.12	1.04	1.20	0.003	1.08	1.00	1.17	0.038
29+	1.01	0.92	1.10	0.881	1.00	0.91	1.09	0.948
<b>Gender</b>								
Female	1.00			1.00				
Male	1.03	0.98	1.08	0.300	1.00	0.95	1.05	0.986
<b>Previous healthcare study</b>								
Yes	1.00			1.00				
No	0.95	0.90	1.00	0.062	0.95	0.90	1.01	0.129
<b>Previous healthcare work</b>								
Yes	1.00			1.00				
No	1.01	0.95	1.07	0.734	1.06	0.99	1.13	0.079
<b>Previous diagnosis of mental illness</b>								
Yes	1.00			1.00				
No	0.96	0.90	1.02	0.191	0.92	0.86	0.98	0.015

CI = confidence interval; OR = odds ratio; AOR = adjusted odds ratio; p = probability

decreased, given that stigma in the general population has been shown to increase consistently with ageing (45). By comparison, Boyle et al did not find a statistically relevant change in levels of regard by age among paramedic students (36). Among employed graduates, general nurses did not display statistically significant changes in empathy by age (14) nor did general healthcare workers (46) but increasing age has been associated with more negative attitudes among mental health nurses (15). For undergraduate paramedicine programs, integrating empathy and ethical practice throughout all degree years may help mitigate some progressive increases in stigmatisation with age and patient exposure.

With regard to the subscales within the OMS-HC, the present study identified scores comparable to those seen in other disciplines for two of the three. Mean scores for 'attitudes' (13.9) and 'disclosure/help-seeking' (11.9) for the entire cohort were similar to the pooled results from 12 studies reported by Modgill et al (12.6 and 11.2, respectively), however the score for the 'social distance' was markedly higher (41). When analysed by country of study, the high social distance score was consistent across all four sites. Social distance is an important construct within stigma but one that appears to receive less focus in de-stigmatisation programs. A study of 12 such de-stigmatisation programs reported that most tended to focus on improving perceptions and attitudes of healthcare providers rather than on countering social distance issues (41). There is evidence that social distance can be improved in healthcare students and qualified professionals, particularly when the interventional initiative includes 'contact education' (35,47). The preference for greater social distance shown in the present results suggests that educators designing de-stigmatisation initiatives for undergraduate paramedicine education should ensure that outcomes specifically targeting reduction in social distance are present in addition to those that more commonly target attitudes, perceptions and knowledge.

The multi-national nature of the data presented herein makes for interesting cultural comparison. In the present study, Australian students appeared least stigmatised and Finnish students most stigmatised, though these differences were not statistically significant across the full 20-item scale. Within the three subscales there was little difference across countries for 'disclosure/help-seeking' and 'social distance', though Finnish students scored significantly higher in the 'attitudes' measure. Stigma among the general population and students in Finland was described in a systematic review by Wahlbeck et al who found stigma to be prevalent, but no more so than in other European countries (48). Aromaa et al described Finnish people's perceptions towards mental illness, reporting that a belief exists within this culture that people with depression are responsible for their illness and that mental illness is associated negatively in terms of health consequences (49). Chambers et al compared a sample of nurses' attitudes to mental illness from five European countries (United Kingdom, Portugal, Ireland, Lithuania, Italy and Finland) finding Finnish nurses'

attitudes to be more negative than Irish and Italian nurses (14). In similar research, Happell et al found nursing students from Australia and Ireland tended to have more positive attitudes than Finnish, Norwegian or Dutch students towards mental illness (50). The multi-dimensional nature of stigma was evident in an international study by Bell et al in which Finnish pharmacy students reported lower scores in regard to perceptions of mental illness patients as being 'dangerous' and 'unpredictable' compared to Australian students (25).

Given the prevalence of mental illness and mental health-related presentations attended to by paramedics, prevention and reduction of stigma towards people with mental illness must be positioned as prioritised learning outcomes in undergraduate paramedicine curricula. Teaching and learning activities should be designed to address not only knowledge of mental illness and mental healthcare provision, but exploration of student and qualified paramedic attitudes and behaviour. Approaching stigma reduction education using this 'tri-partite' model as a conceptual foundation may contribute to a comprehensive 'intervention' within a program that may increase likelihood of stigma reduction and the development of positive attitudes and perceptions towards those with mental illness (5). A detailed discussion of evidence-based education interventions is beyond the scope of this descriptive study, though positive outcomes have been seen in controlled trials investigating contact-based education in pharmacy and medicine student cohorts (35,51). Papish et al proposed a model in 2013 for decreasing stigma and improving student attitudes towards mental illness that focusses on knowledge, process and contact-based education (5). They stress the importance of correcting misconceptions that may have developed as a result of students' knowledge and contact-based education experience. Paying attention to the 'process', or 'how we do things' may act to help guide correction and lead to more positive attitudes and perceptions.

This study provides valuable pilot data that contributes to an enhanced understanding of student attitudes toward people with mental illness. The data provide a baseline comparator that future research can refer back to and highlights the need to strategically address the issue of stigma during the formative undergraduate years of clinician development. While further baseline data from paramedic undergraduate programs should be pursued across countries and institutions, future research should expand beyond descriptive reporting of stigma levels to explore effectiveness of current university mental health education and of tailored educational interventions specifically targeting stigma reduction as a key teaching and learning outcome. The OMS-HC as proven test-retest reliability which makes it well suited to pre- and post-study designs built around stigma reduction interventions (40).

## Limitations

There are several limitations that must be given consideration when interpreting the findings reported herein. First, the overall

response rate of 54% and variances in response rate across the four countries of study and introduce a risk of responder bias, therefore the results should be viewed as hypothesis-generating. Second, the study only included cohorts from one institution per country, which could reduce the generalisability of the findings.

## Conclusion

In this sample of undergraduate students across four international institutions, stigma was present at concerning levels comparable to those reported in student populations in other healthcare disciplines. Stigma appeared to be present to similar levels regardless of country of study. Participants reported a preference for increased social distance from people with mental illness to a level significantly higher than that seen elsewhere in healthcare student populations. Paramedicine programs should prioritise implementation of evidence-based mental healthcare curricula designed to reduce and prevent stigma during the formative and impressionable undergraduate years before the hardening of attitudes, perceptions and behaviour that occurs in postgraduate clinical practice. Design of such interventions should ensure inclusion of specific outcomes aimed at countering social distance issues.

## Competing interests

The authors declare no competing interests. Each author of this paper has completed the ICMJE conflict of interest statement.

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Table 2. Mean, standard deviation and 95% confidence intervals of each OMS-HC item by country of study

Healthcare provider items	Australia (n=40)			Finland (n=31)			South Africa (n=8)			New Zealand (n=38)		
	Mean (sd)	95% CI	CI	Mean (sd)	95% CI	CI	Mean (sd)	95% CI	CI	Mean (sd)	95% CI	CI
1. I am more comfortable helping a person who has a physical illness than I am helping a person who has a mental illness	3.2 (1.3)	2.8	3.6	3.3 (1.1)	2.9	3.7	3.3 (0.9)	2.5	4.0	3.1 (0.9)	2.8	3.4
2. If a person with a mental illness complains of physical symptoms (eg. nausea, back pain or headache), I would likely attribute this to their mental illness	2.1 (0.7)	1.9	2.3	2.6 (0.8)	2.4	2.9	2.1 (0.8)	1.4	2.8	2.2 (0.8)	1.9	2.5
3. If a colleague with whom I work told me they had a managed mental illness, I would be as willing to work with him/her <sup>^</sup>	4.6 (0.6)	4.4	4.8	3.7 (1.0)	3.4	4.1	4.3 (0.7)	3.7	4.8	4.4 (0.7)	4.2	4.7
4. If I were under treatment for a mental illness I would not disclose this to any of my colleagues	3.5 (1.0)	3.1	3.8	3.2 (1.1)	2.8	3.6	3.1 (1.1)	2.2	4.1	3.1 (1.0)	2.8	3.4
5. I would be more inclined to seek help for a mental illness if my treating healthcare provider was not associated with my workplace	3.7 (0.9)	3.4	4.0	3.5 (0.8)	3.3	3.8	3.8 (1.0)	2.9	4.6	3.7 (0.9)	3.4	4.0
6. I would see myself as weak if I had a mental illness and could not fix it myself	2.6 (1.1)	2.2	2.9	2.8 (1.3)	2.3	3.3	3.1 (1.4)	2.0	4.3	2.7 (1.1)	2.4	3.1
7. I would be reluctant to seek help if I had a mental illness	2.9 (1.2)	2.5	3.3	3.3 (1.3)	2.8	3.7	1.5 (0.5)	1.1	1.9	2.6 (1.1)	2.2	2.9
8. Employers should hire a person with a managed mental illness if he/she is the best person for the job. <sup>^</sup>	4.7 (0.6)	4.5	4.9	4.1 (0.8)	3.8	4.4	4.6 (0.7)	4.0	5.2	4.4 (0.7)	4.2	4.7
9. I would still go to a physician if I knew that the physician had been treated for a mental illness <sup>^</sup>	4.4 (0.7)	4.1	4.6	3.9 (1.0)	3.5	4.2	3.8 (0.7)	3.2	4.3	4.2 (0.8)	3.9	4.4
10. If I had a mental illness I would tell my friends <sup>^</sup>	3.2 (0.9)	2.9	3.5	3.8 (0.9)	3.5	4.2	3.0 (1.2)	2.0	4.0	3.5 (1.0)	3.2	3.8
11. Is it the responsibility of health care providers to inspire hope in people with mental illness <sup>^</sup>	3.5 (0.9)	3.2	3.8	3.8 (0.9)	3.4	4.1	4.3 (1.0)	3.4	5.1	3.8 (0.6)	3.6	4.0
12. Despite my professional beliefs, I have negative reactions towards people who have a mental illness	1.8 (0.8)	1.5	2.1	2.5 (1.1)	2.1	2.9	1.5 (1.1)	0.6	2.4	1.8 (0.7)	1.6	2.0
13. There is little I can do to help people with mental illness	2.1 (0.9)	1.8	2.3	2.5 (1.0)	2.2	2.9	2.3 (1.0)	1.4	3.1	2.1 (0.6)	1.9	2.3
14. More than half of people with mental illness don't try hard enough to get better	1.6 (0.7)	1.4	1.9	2.9 (1.0)	2.6	3.3	2.8 (1.1)	1.5	4.0	2.2 (1.1)	1.9	2.6
15. People with mental illness seldom pose a risk to the public <sup>^</sup>	2.7 (1.1)	2.3	3.0	3.3 (0.9)	3.0	3.6	3.0 (1.0)	2.4	3.6	3.3 (0.9)	3.0	3.6
16. The best treatment for mental illness is medication	2.3 (0.8)	2.1	2.6	2.4 (0.8)	2.1	2.7	2.8 (1.5)	1.9	3.6	2.5 (0.7)	2.2	2.7

17. I would not want a person with a mental illness, even if it were appropriately managed, to work with children	1.8 (0.6)	1.6	2.0	2.8 (1.0)	2.5	3.2	2.6 (0.8)	1.7	3.5	2.2 (0.8)	1.9	2.4
18. Healthcare providers do not need to be advocates for people with mental illness	1.9 (0.8)	1.6	2.2	2.4	3.1	3.1	2.1 (1.0)	1.1	3.2	2.3 (1.1)	2.0	2.7
19. I would not mind if a person with a mental illness lived next door to me <sup>^</sup>	4.5 (0.9)	4.2	4.7	3.9 (0.9)	3.6	4.3	4.1 (0.4)	3.8	4.4	4.3 (0.6)	4.1	4.5
20. I struggle to feel compassion for a person with a mental illness	1.7 (0.9)	1.4	2.0	2.7 (0.9)	2.3	3.0	1.6 (1.1)	0.7	2.5	1.7 (0.7)	1.4	1.9

<sup>^</sup>negatively worded items with reverse scoring; SD = standard deviation; CI = confidence interval