Mental Illness Stigma and Causal Beliefs: Among Potential Mental Health Professionals

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Abstract—Mental health professionals views about mental illness is an important issue which has not received enough attention. The negative stigma associated with mental illness can have many negative consequences. Unfortunately, health professionals working with the mentally ill can also exhibit stigma. It has been suggested that causal explanations or beliefs around the causes of mental illness may influence stigma. This study aims to gain a greater insight into stigma through examining stigma among potential mental health professionals. Firstly, results found that potential mental health professionals had relatively low social distance $t(205) = -3.62$, $p <.001$. Secondly, an ANOVA indicated that the participants endorsed some causal beliefs more than others, $F(1.82, 311.55) = 88.47$, $p < .001$, partial $\eta^2 = .34$. Moreover, participants endorsed the biological causal explanation the most. Thirdly, results indicated that combined contact (quality and quantity) and causal beliefs (biological, psychological, and environmental) explained a significant proportion of the variance in stigma, $R^2 = .35$, adjusted $R^2 = .33$, $F(5, 153) = 16.66$, $p < .001$. Quality of contact was the strongest predictor, with greater quality of contact associated with lower desired social distance. Also, quantity of contact, psychological and environmental causal explanations were also significant predictors of stigma. Greater quantity of contact and higher levels of environmental causal beliefs were associated with lower levels of stigma while psychological causal explanations were associated with higher levels of stigma. A series of multiple regression analyses were conducted that showed the three causal beliefs had different impacts on four factors of stigma (Authoritarian, Benevolence, Social restrictiveness, and Community mental health ideology). These analyses showed that psychological causal beliefs had the most positive impact. More research is required on this topic as it has important implications to the treatment and recovery for people suffering from mental illness.

Keywords—Causal beliefs, contact, health professionals, mental illness stigma, social distance.

I. INTRODUCTION

MENTAL health is an important issue worldwide with over 450 million people suffering from a mental or behavioural disorder, and one in four people developing one or more of these disorders in their lifetime [1]. Having a mental illness can impact life in two major ways. First, and probably the most acknowledged, is the harm caused as a result of the

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illness itself, such as the cognitive, affective, and behavioural difficulties that often limit daily functioning. Secondly, and often unrecognised, is the harm caused by the stigma associated with having a mental illness [2]. Mental illness stigma can drastically decrease the quality of life for sufferers. Unfortunately health professionals working with the mentally ill can also exhibit stigma towards people with a mental illness [3]. This can not only perpetuate mental illness stigma but it can also have adverse effects on treatment and recovery [4]. Therefore, a greater understanding of factors which influence mental health professionals' stigma is important as it is the first step in reducing stigma among mental health professionals.

While the attitudes of the general public towards people with mental illness have received considerable attention, the perceptions of mental health professionals have been largely ignored in comparison [5]. Understanding the perceptions of mental health professionals toward people with a mental illness is important for several reasons. Mental health professionals are often viewed as role models and their opinions are respected when it comes to mental health issues [6]. Therefore, it is important to understand what mental health professionals actual beliefs are, as their beliefs are likely to influence the information and service that they give to consumers and the public. Moreover, mental health professionals are often the people in charge of anti-stigma projects. If mental health professionals are not aware of their potential stigma then this may reduce the effectiveness of anti-stigma programs and services provided to the consumer. Despite the importance of understanding the perceptions of mental health professionals this area of stigma research has only recently started to gain attention [5].

Currently, research on perceptions and beliefs of mental health professionals towards mental illness is limited, and the research which has occurred appears to yield contradictory results [6]. Some studies provide evidence that mental health professionals' have overall positive attitudes toward people with mental illness [7]-[9]. Other research suggests that mental health professionals have more negative attitudes then the general public towards mental illness [10]-[12]. In a recent literature review it appeared that even when studies reported an overall positive attitude of mental health professionals towards people with mental illness, negative attitudes were still present on several measures [6]. It appears evident that mental health professionals are not immune to negative beliefs

towards people with mental illness and being aware of these beliefs and how they influence an individual are important for mental health professionals to be aware of [12].

Many stigma reduction programs are based on the idea that merely interacting with people in the out-group (i.e. people with a mental illness) can help improve attitudes, with a greater *quantity* of contact assumed to result in more positive attitudes [13]. *Quality* of contact is also thought to be important in stigma reduction with factors such as, equal status between groups, cooperation to achieve common goals, and support from the authorities are all thought to be important in improving the quality of contact [14]. Several stigma reduction methods have been explored with contact (quality and quantity) thought to yield the strongest results and provide the best chance of changing prejudicial attitudes and behaviour towards people with a mental illness [15]. However, the role of contact in reducing stigma among mental health professionals becomes less clear, as mental health professionals presumably receive ample contact and yet have still been found to have negative attitudes toward people with a mental illness.

Another factor which is thought to have an influence on mental illness stigma is the causal explanations or beliefs around the causes of mental illness. Currently, the understanding of mental illness is driven by two opposing causal explanations or beliefs; the *biological* and the *psychological/psychosocial* [16]. The biological causal explanation or belief generally emphasises physiological phenomena such as genetics and neurotransmitter concentrations as the 'causes' of mental illness [17]. The biological explanation is often referred to as the medical model and aims for mental illness to be viewed as an illness like any other medical illness [18]. The psychological or psychosocial causal explanation or belief emphasises past experiences, relationships, environmental situations, and the individual's thoughts, feelings, and behaviours as the 'causes' of mental illness [17]. Some research has suggested that there may actually be three distinct types of causal beliefs; biological, psychosocial, and environmental [18]. Factors which may be considered as environmental causes include; negative life events, general stress, and less of social support [18]-[19].

Over the last few decades numerous attempts to improve attitudes towards people with mental illness have been based on the idea that viewing mental illness from a biological perspective, and like any other illness, will reduce stigma [20]. The attribution theory has been used to help explain why viewing mental illness from a biological perspective may help decrease stigmatising attitudes and discriminatory behaviour [21]. The attribution theory suggests that promoting the biological explanation of mental illness will help reduce perceptions of responsibility and guilt, and thus increase such emotions as pity or empathy resulting in a reduction of stigma or discriminating behaviour [22]. However, there seems to be contradictory views on how causal beliefs about mental illness impact stigma. In particular it is unclear if endorsing biological

causal beliefs has a positive or negative effect on mental illness stigma [16] & [19]. There has been less research exploring the impacts of the psychological and environmental causal beliefs on perceptions of mental illness. Some researchers believe that psychological and environmental causal beliefs have a more positive impact on perceptions towards mental illness [16]. When compared to the biological causal explanation it was found that people who endorsed the psychological causal explanation had a more positive view on prognosis and less likely to view people with a mental illness as dangerous [16]. One study found that environmental causal beliefs were associated with reduced desire for social distance and less blame towards individuals with a mental illness [18].

Moreover, there is little research on the impact that causal explanations have on mental health professionals' stigma. This issue is important to understand, as the causal beliefs of mental health professionals can have implications for treatment approaches and possible therapeutic outcomes [23].

It is thought that contact may have an impact on causal beliefs. The results of one study suggested that having more contact with people with a mental illness encourages beliefs in psychosocial causes, possibly because there is a greater understanding of the kinds of traumas and stressors that the individual had endured [24]. However, it could be possible that people who are more psychosocially orientated are less prejudice to begin with and therefore may be more willing to have contact with people with a mental illness. More research is needed to explore the relationship between contact and causal beliefs.

The purpose of the current study is to examine the perceptions of potential mental health professionals and explore factors which may influence the attitudes of potential mental health professionals towards people with a mental illness. Firstly, this study aims to explore what causal belief potential mental health professionals endorse. Next, this study will examine which factors (contact and causal explanations) predict stigma. It is hypothesised that contact (quality and quantity) and causal explanations (biological, psychological, and environmental) will account for a significant proportion of the variance in mental illness stigma. Finally, this study with explore the impact of causal beliefs in different elements of stigma.

II. METHOD

A. Participants

Data for this research were collected from 220 students studying undergraduate psychology units at the University of Canberra, 38 questionnaires were not included as they were not adequately completed. Therefore, 182 participants were included in the final data analysis. There were 30 males (16.5%) and 151 females (83%) who responded to the question regarding gender, with 1 participants choosing not to specify their gender. Ages ranged from 17 to 59 years ($M = 22.71$, $SD = 8.29$), with the mean age for males being 26.21 years ($SD = 11.22$), and for females the mean age was 22.06

years ($SD = 7.48$).

B. Measures

Data were collected via an anonymous online self report questionnaire entitled Perceptions of Mental Illnesses Questionnaire. The questionnaire included several demographic variables as well as measures of contact, causal explanations, and stigma.

Quantity of Prior Contact was measured using an open ended question asking participants 'how many close friends' do they have with a mental illness. Familiarity or number of friends with people who have a mental illness has been used in past research as a measure of contact [24].

Quality of Prior Contact was measured using an adapted version of the qualitative aspects of contact measure [19]. It comprised of six words and their polar opposites that were placed as anchors on a 10-point scale. Participants were asked to describe their past interactions with people with a mental illness in terms of the following: equal status or unequal status, involuntary or voluntary, superficial or intimate, pleasant or unpleasant, cooperative or competitive, and positive or negative. Four of the items were reverse scored, and an overall quality of prior contact score derived by averaging responses across items. Total scores ranged from 1 to 10, with higher scores indicating a greater perceived quality of prior contact. Previous research has found that this measure has good internal consistency with Cronbach's alpha of .80 [20]. The current study had a Cronbach's alpha of .74 which is considered acceptable [25].

Causal Beliefs were measured using a modified version of a perceived etiology measure [21]. The measure comprised of 11 items, and participants indicated the extent to which they endorsed each item on a 7-point scale ranging from -3 (*Definitely not a cause*) to 3 (*Definitely a cause*). Composite scores were developed which reflected three different causal explanations (biological, psychological, and environmental). The biological factor included items such as "A chemical or hormone imbalance" and "A genetic predisposition". The psychological factor included items such as "A lack of will power or control" and "Personality traits". The environmental factor included items such as "General stress" and "A negative life event/s". Total scores for each factor ranged from 1-7 with a higher score indicating a stronger belief in the causal explanation. The current study had a Cronbach's alpha of .81 which is considered acceptable [25].

Stigma was measured using a modified version of the Social Distance measure [23]. Participants responded to five items on a 5-point scale, ranging from 1 (*Definitely Willing*) to 5 (*Definitely Unwilling*). It included items such as "Come and live next door to you" and "Marry one of your children". An overall social distance total score was derived by averaging responses across items ranged from 1 to 5, with higher scores indicating that the participant was less willing to interact with someone with a metal illness. The social distance measure has previously shown good to excellent internal consistency with Cronbach's alpha's ranging from .75 to .90 [23]. The current

study had a Cronbach's alpha of .89 which is considered acceptable [25].

A slightly modified version of the Community of Attitudes towards the Mentally Ill (CAMI) was also used as a measure of stigma [28]. The CAMI has four subscales; Authoritarian, Benevolence, Social restrictiveness, and Community mental health ideology. The Authoritarian subscale measures the tendency to view people with a mental illness as inferior and threatening (Cronbach's alpha of .71). The Benevolence subscale explores empathy and a kindly paternalistic orientation towards people with a mental illness (Cronbach's alpha of .22). The Social restrictiveness subscale measures the tendency to perceive people with a mental illness as threats to society and social functioning (Cronbach's alpha of .82). The Community mental health ideology subscale measures beliefs towards people with a mental illness being treated and involved in the community (Cronbach's alpha of .88). Participants responded to 40 items on a 5-point scale, ranging from 1 (*Strongly Agree*) to 5 (*Strongly Disagree*). There were 10 items for each subscale 5 which were positive and 5 which were negative. Negative items were reversed and total scores were derived for each subscale. Higher scores indicated more positive perceptions towards people with a mental illness (i.e. a high score on Authoritarian would indicate viewing people with a mental illness as equal and non-threatening).

C. Procedure

Prior to commencing data collection, ethics approval was sought and received from the University of Canberra Committee for Ethics in Human Research. Participants were recruited via advertisement in lectures and notices on Moodle (an online teaching resource). Students were required to be enrolled in an undergraduate or post graduate psychology unit at the University of Canberra to be eligible to participate in the current study. Participants were required to follow a link and complete an online questionnaire which took approximately ten minutes to complete.

III. RESULTS

A one sample *t* test was used to compare social distance ($M = 2.30$, $SD = .78$, $n = 205$) against the neutral point on the social distance scale (2.5). Participants reported scores 0.19 points below the neutral point (95% CI = -.30 to -.09). This difference was found to be statistically significant, $t(205) = -3.62$, $p < .001$, and small, $d = .25$. This indicated that potential mental health professionals then to have relatively low social distance.

A one-way repeated measures analysis of variance (ANOVA) was used to compare the causal beliefs which participants endorsed. The assumptions of normality and homogeneity were met. The Mauchly's test indicated that the assumption of sphericity was violated; therefore, Huynh-Feldt Epsilon was used. The ANOVA indicated that the participants endorsed some causal beliefs more than others, $F(1.82, 311.55) = 88.47$, $p < .001$, partial $\eta^2 = .34$. Pairwise comparisons further revealed that biological causal beliefs ($M = 5.82$, $SD = 0.92$) were endorsed significantly more than

psychological causal beliefs (M = 4.58, SD = 1.25), and environmental causal beliefs (M = 5.12, SD = 1.14). Finally, results indicate that environmental causal beliefs were endorsed more than psychological causal beliefs. These results indicate that potential mental health professionals endorsed the biological causal explanation more than the psychological or environmental causal explanations.

The main aim of this study was to examine what factors help to predict stigma among potential mental health professionals. This was tested via a hierarchical multiple linear regression. Examination of data indicated that data were suitably correlated with the dependent variable for examination through multiple liner regression to be reliably undertaken. Quality and quantity of contact were entered on the first step, and on the second step the three causal explanations were entered (biological, psychological, and environmental). Initially, data were examined for multivariate outliers via examination of Mahalanobis distances and standardized residuals. A total of two cases were excluded at this point as they were potential multivariate outliers.

A summary of the regression is presented in Table I. On step one, quality and quantity of contact collectively accounted for a significant 30% of the variance in stigma, $F(2, 156)$ = 33.45, p <.001. Quality of contact, $t(156)$ = -7.02, p <.001, and quantity of contact , $t(156)$ = -2.49, p =.014 were both significant predictors of stigma on the initial step.

TABLE I
SUMMARY OF HIERARCHICAL REGRESSION ANALYSIS FOR PREDICTORS OF STIGMA

Variable	B	β	sr^2	R^2	Adjusted R^2	ΔR^2
Step 1				.300	.291	.300*
Quantity of Contact	-.103*	-.172	.028			
Quality of Contact	-.252*	-.483	.221			
Step 2				.377	.357	.046 *
Quantity of Contact	-.101*	-.169	.026			
Quality of Contact	-.233*	-.445	.182			
Biological	-.032	-.037	.001			
Psychological	.187*	.296	.051			
Environmental	-.152*	-.220	.027			

* p < .05.

On the second step the three causal belief variables were added and explained a significant additional 5.2% of the variance in stigma, $\Delta F(3, 153)$ = 4.13, p = .008. Quality of contact was the strongest predictor in the final model, uniquely explaining 18.23% of the variance in stigma, $t(153)$ = -6.57, p <.001. The next strongest predictor was psychological causal beliefs, which uniquely explained 5.06% of the variance in stigma, $t(153)$ = 3.46, p = .001. Environmental causal beliefs were the next strongest uniquely explaining 2.69% of the variance in stigma, $t(153)$ = -2.52, p = .013. The last predictor variable that was significant in the final model was quantity of contact, which uniquely explained 2.5% of the variance in stigma, $t(153)$ = -2.41, p = .017. The results indicate the participants who had higher quality of contact, greater quantity of contact, and endorsed the environmental causal beliefs had lower levels of stigma. Results also suggest that participants who endorsed psychological causal beliefs had higher levels of

stigma. In combination, the five predictor variables explained approximately 35.3% of the variance in stigma, R^2 = .35, adjusted R^2 = .33, $F(5, 153)$ = 16.66, p < .001, a combined effect of this magnitude can be considered 'large' (f^2 = .55).

Four standard multiple regression analyses (MRA) were conducted to explore the relationship between causal beliefs and the four different aspects of stigma reported in the CAMI (Authoritarian, Benevolence, Social restrictiveness, and Community mental health ideology). A summary of the four MRA are presented in Table II.

TABLE II
SUMMARY OF FOUR MULTIPLE REGRESSION ANALYSES (MRA) FOR PREDICTORS OF STIGMA

Variable	B	β	sr^2	R^2	Adjusted R^2	F
MRA 1 - Authoritarian				.136	.118	7.753*
Biological	-.115*	-.224	.048			
Psychological	.146*	.376	.086			
Environmental	-.121*	-.285	.049			
MRA 2 - Benevolence				.012	-.007	.625
Biological	-.058	-.059	.026			
Psychological	.097	.128	.010			
Environmental	-.048	-.057	.002			
MRA 3 – Social restrictiveness				.089	.070	4.79 *
Biological	-.069	-.127	.015			
Psychological	.142*	.348	.071			
Environmental	-.128*	-.278	.045			
MRA 4 – Community mental health ideology				.110	.092	6.06 *
Biological	-.115*	-.170	.027			
Psychological	.180*	.050	.079			
Environmental	-.154*	-.285	.048			

* p < .05.

The first MRA was conducted to estimate the proportion of variance in *Authoritarian* that can be accounted for by causal beliefs. In combination, causal beliefs accounted for a significant 13.6% of the variability in Authoritarian, R^2 = .14, adjusted, R^2 = .12, F (3,148) = 7.75, p <.001. The results indicate that participants who reported higher biological and environmental causal beliefs had a greater tendency to perceive the mentally ill as inferior and threatening. Participants who reported higher levels if psychological causal beliefs perceived people with a mental illness as less interior and less threatening.

The second MRA was conducted to estimate the proportion of variance in *Benevolence* that can be accounted for by causal beliefs. In combination, causal beliefs accounted for a non-significant 1.2% of the variability of Benevolence, R^2 = .01, adjusted, R^2 = -.01, F (3,151) = .63, p =.600.

The third MRA was conducted to estimate the proportion of variance in *Social restrictiveness* that can be accounted by causal beliefs. In combination, causal beliefs accounted for a significant 8.9% of the variability in Social restrictiveness, R^2 = .09, adjusted, R^2 = .07, F (3,148) = 4.79, p =.003. The results suggest that participants who reported higher levels of environmental causal beliefs were more likely to perceive people with a mental ill as threats to society and social functioning. Results also showed that participants who

reported higher levels of psychological causal beliefs were less likely to view people with a mental illness as threats to society and social functioning.

The fourth MRA was conducted to estimate the proportion of variance in *Community mental health ideology* that can be accounted for by causal beliefs. In combination, causal beliefs accounted for a significant 11% of the variability in Authoritarian, $R^2 = .11$, adjusted, $R^2 = .09$, $F(3,147) = 6.06$, $p =.001$. Results showed that participants who reported higher levels of psychological causal beliefs also were more likely to believe people with a mental illness are valuable members if the community. It also appears that participants who endorsed biological and environmental causal beliefs also reported more negative perceptions towards people with a mental illness being included in the community.

IV. DISCUSSION

The present study established several interesting findings which may be useful in the theoretical implications of mental health professionals' stigma towards mental illness. The results suggest that potential mental health professionals have a low desire for social distance. A recent literature review showed that even when studies showed overall positive results towards people with a mental illness, negative attitudes where still evident in the social distance measure [6]. This implies that the social distance measure may be less affected by social desirability and results using this measure may provide a more accurate reflection of potential discrimination. Therefore, the results of this study suggest that potential mental health professionals have relatively positive perceptions towards people with a mental illness. The results indicated that potential mental health professionals endorsed biological causal explanations more than psychological and environmental causal explanations. This is interesting as past research has found that the public generally view the biological causal explanation as less credible [19], this could suggest that mental health professionals may endorse causal beliefs differently compared to the general public. Moreover, this finding is potentially worrying and some past research has found that mental health professions who endorse the biological explanation of mental illness were more likely to take greater responsibility for deciding treatment goals, and less optimistic about the possible effects of consumer involvement [23], which are both important factors in successful treatment.

This study also found that quality of contact was the best predictor of social distance (above and beyond that which was explained by quantity of contact, and causal explanations). With greater perceived quality of contact associated with lower levels of social distance. This result is consistent with past research which has shown the importance of quality of contact [27]-[29]. Quantity of contact was also a significant predictor of stigma, which is also consistent with past research [30]. However, quantity of contact was relatively weak in comparison to quality of contact. These results suggest that,

although mental health professionals may receive ample quantity of contact, quality of contact is more important. If anti-stigma programs are developed for mental health professionals, then the focus should be on improving quality of contact not just relying on the quantity of contact that health professionals receive as part of their work.

Past studies have indicated that causal explanations do have an impact on mental illness stigma [19]. This study also found that causal beliefs had an impact on stigma. Surprisingly, the biological causal explanation was not a significant predictor of social distance. This is interesting considering that a lot of past research has shown that the biological explanation of mental illness has an impact on stigma [22]. The psychological causal explanation of mental illness was strongest predictor among the causal beliefs. Results found that participants who endorsed psychological causal beliefs had greater social distance. A possible explanation for this finding is that it is believed that the psychological view may allow individuals to feel safer because causative factors point to active agents that may not exist for the individual [31]. However, if people believe this then they may want greater distance from people with a mental illness to avoid some of these causative factors. The only causal beliefs which appeared to have a positive impact on social distance was the environmental causal explanation. When participants reported higher levels of environmental causal beliefs they also reported lower levels of social distance. This finding is consistent with some past research which has shown that the environmental causal belief was associated with lower levels of social distance [18].

The results of this study also found that causal beliefs had different impacts on different elements of stigma. The biological and environmental causal explanation seemed to have a negative impact on three of the elements in the CAMI measure (authoritarian, social restrictiveness, and community mental health ideology). Participants with higher levels of biological and environmental causal beliefs seemed to view people with a mentally ill as inferior and threatening, and also reported more negative perceptions towards people with a mental illness being included in the community. The psychological causal explanation has positive effects on authoritarian, social restrictiveness, and community mental health ideology. Suggesting that endorsing the psychological explanation may help improve perceptions towards people with a mental illness.

These findings of this study are interesting as the focus of past research has been on the general population's attitudes, therefore, the impact that causal explanations have on mental health professionals is relatively unknown [23]. In particular the results from this study suggest that the relationship between causal beliefs and perceptions towards mental illness may not be straightforward, with a specific causal belief having some negative and some positive impacts on perceptions towards mental illness. This indicates that there may not be a superior model of causal explanations, in the fight to reduce negative perceptions of mental illness.

In this study, several limitations must be noted for the planning of future research and interpreting the results of the current study. One of the major limitations of this study is the relatively restricted sample (all participants were enrolled in psychology units at the University of Canberra). Future research should explore actual mental health professionals attitudes towards people with a mental illness compared to the general public. Moreover, research has often shown that attitudes towards people with mental illness vary across different professional fields [11]. Therefore, the current sample of psychology students would not be representative of potential mental health professionals in other fields. Another limitation of the current study is that the questionnaire uses the general term 'mental illness' to refer to all types of mental illnesses. Therefore, when participants answered the measures it is not clear what type of mental illness they were thinking of. Past research has shown that people's attitudes vary between different mental illnesses [32]. Future research may want to consider differentiating between different mental illnesses.

In conclusion this study aimed to contribute to the limited research on attitudes of mental health professionals towards mental illness by exploring the attitudes of potential mental health professionals. Firstly, results found that potential mental health professionals have relatively low social distance, potentially suggesting positive perceptions towards people with a mental illness. Next, it was found that potential mental health professionals endorsed the biological causal explanation more than the psychological and environmental causal explanations. Third, it was found that quality of contact was the best predictor of social distance, with better quality of contact associated with lower levels of social distance. Despite the fact that participants endorsed the biological explanation the most the biological explanation did not have a significant impact on social distance. Quantity of contact and environmental causal explanations were also associated with lower levels of social distance. While psychological causal beliefs were associated with higher levels of social distance. Finally, this study found that causal beliefs have different impacts of different aspects of stigma. The biological and environmental causal explanations seemed to be associated with an increase in negative elements of stigma (authoritarian, social restrictiveness, and community mental health ideology). The psychological causal explanation had a positive impact on elements of stigma (authoritarian, social restrictiveness, and community mental health ideology. Overall, this study shows that causal explanations appear to have an impact on perceptions towards mental illness amongst potential mental health professionals. Much more research is needed on exploring factors that contribute to mental illness stigma among mental health professionals. Greater understanding of factors which contribute to attitudes of mental health professionals is the first step to reducing stigma.

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