# *"It helps us to understand that it's not particularly a patient's fault"*: Mental health professionals discuss their causal beliefs and perceptions of mental illness

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Mental health professionals' beliefs about the causes of mental illness are thought to impact their stigma and perceptions towards mental illness; however, there has been little research exploring this topic. This study aimed to examine the causal beliefs of mental health professionals and how these beliefs have developed, along with the impact that these beliefs have on perceptions of consumers. A thematic framework guided the analysis of semi-structured interviews with 17 mental health professionals. Multiple causes of mental illness were endorsed simultaneously, with most endorsing a combination of biogenetic, psychological and environmental factors. Causal beliefs influenced factors such as blame, compassion, empathy, and understanding. Mental health professionals identified that their causal beliefs impacted their perceptions of consumers with both positive (e.g., increasing empathy and compassion) and negative consequences (e.g., increase blame and frustration). Mental health professionals thought their beliefs were influenced primarily by their clinical experiences. Further research is needed to understand how mental health professionals' causal beliefs and perception towards consumers may impact the treatment process.

**Keywords:** *causal beliefs; mental health professionals; mental illness; stigma; professional experience; thematic analysis*

Reducing the stigma associated with mental illness is an important endeavour, given that stigma has been found to dramatically decrease the quality of life of people living with mental illness (Corrigan, Sokol, & Rüsch, 2013; Kvaale, Gottdiener, & Haslam, 2013). The bulk of research on mental illness stigma has focused on the general public, with the attitudes of mental health professionals receiving minimal attention by comparison (Blinded for review, 2017; Schulze, 2007). It is often assumed that mental health professionals have positive attitudes towards mental illness and, as such, they have played an important role in the fight against stigma (Adewuya & Oguntade, 2007). However, mental health professionals can still exhibit negative attitudes and stigma towards people with mental illness, such as viewing people with mental illness as being dangerous and having a desire for increased social distance (Kopera et al., 2015; Scholz, Bocking, & Happell, 2017; Wahl & Aroesty-Cohen, 2010). These negative attitudes may adversely impact the effectiveness of mental health promotion efforts and are likely to have a negative impact on treatment (Overton & Medina, 2008). Therefore, it is essential to understand what influences mental health professionals' attitudes, in order to reduce stigma and improve services provided.

Contact is one factor thought to impact stigma (Allport, 1954; Amir, 1969; Pettigrew & Tropp, 2006), with some stigma reduction programs based on the idea that interacting with people from the out-group (i.e., people with mental illness) will help to reduce stigma and improve attitudes (Corrigan, Larson, Sells, Niessen, & Watson, 2007). Lauber and colleagues (2006) found mental health professionals with more professional experience had a more positive attitudes towards people with mental illness, but that hours of working (part-time versus full-time) did not appear to influence stereotypical attitudes. However, contact alone does not seem to guarantee stigma reduction given that some mental health professionals, who have regular contact with consumers, still exhibit aspects of attitudes which reflect stigma. Consumer refers to an individual who has received or are receiving treatment for mental illness. This term was developed and used by people with mental illness and advocacy groups to encourage empowerment (Anthony, 1993; McLean, 1995).

Another factor thought to influence stigma are beliefs about the causes of mental illness, or causal beliefs (Haslam & Kvaale, 2015; blinded for review, 2012, 2017; blinded for review, 2017c). Over the past few decades, efforts to understand the psychopathology and aetiology of mental illness have increased, with a particular focus on understanding the biogenetic causes of mental illness (Kvaale et al., 2013; Lebowitz, 2014). In this paper, we place causal beliefs into three categories influenced by definitions provided by Ahn and colleagues (2009).

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Biogenetic refers to genetic or psycho-physiological factors that contribute to mental illness such as genetic predisposition, hereditary, brain structures/abnormalities, and chemical imbalances. Psychological causal beliefs refer to factors such as thoughts, emotions, behaviours, or identity-related factors such as stress, anxiety, or temperament. Environmental causal beliefs include current or past environmental factors such as early childhood experiences, trauma, and substance use.

Several anti-stigma campaigns have promoted biogenetic causes, with the hope that endorsement of biogenetic causes would help to reduce the blame associated with mental illness and thus reduce the stigma towards it in the general public (Wiesjahn, Jung, Kremser, Rief, & Lincoln, 2016). Schomerus and colleagues (2012) conducted a meta-analysis and found that endorsement of biogenetic causes, regarding schizophrenia and depression, increased significantly between 1990 and 2006. However, research that focused on the general public, suggests that endorsement of biogenetic beliefs does not guarantee a reduction in stigma (Angermeyer, Holzinger, Carta, & Schomerus, 2011; Kvaale et al., 2013; Read, Haslam, Sayce, & Davies, 2006).

Two opposing paradigms have generally been used to understand the relationships between causal beliefs (particularly biogenetic causes) and stigma. Attribution theory (Weiner, Perry, & Magnusson, 1988) predicts that causes perceived as outside an individual's control (e.g., biogenetic causes) will elicit emotions such as pity, and thus reduce blame and discrimination (Rüsch, Todd, Bodenhausen, & Corrigan, 2010). Alternatively, through a genetic essentialism lens, endorsing biogenetic factors would result in people with mental illness being viewed as having "bad genes" which are unchangeable (Dar-Nimrod & Heine, 2011). Thus, this perspective argues that endorsement of biogenetic causes would result in little or no improvement in attitudes and decreased optimism around recovery (Haslam, 2011). More recently, Haslam and Kvaale (2015) conducted two comprehensive meta-analyses investigating the impact of biogenetic causal beliefs on perceptions towards mental illness. Their findings prompted the proposal of the mixed-blessing model. This model provides a synthesis between attribution theory and genetic essentialism, and suggests that biogenetic explanations may contribute to reduced blame (as mental illness is viewed as outside an individual's control), but would also encourage essentialistic thinking (i.e. genes are unchangeable) and lead to an increase in stigma and prognostic pessimism.

Relatively little research has been conducted which explores the nature of causal beliefs endorsed by mental health professionals and the relationship between their causal beliefs and perceptions of mental illness (Blinded for review, 2017). Ahn and colleagues (2009) asked mental health professionals to rate the causes of 445 mental disorders, and concluded that mental health professionals place mental disorders on a continuum from strongly biological (and weakly psychological/environmental) to strongly psychological/environmental (and weakly biological). Our previous research, which explored causal beliefs and stigma in potential mental health professionals (psychology students), found that while a combination of beliefs were endorsed, potential mental health professionals endorsed biological causal explanations more than psychological and environmental factors. Moreover, results indicated that causal beliefs do impact mental illness stigma, with different causal beliefs having varying impacts on different elements of stigma. For instance, participants who endorsed biogenetic and environmental factors more strongly, viewed people with mental illness as inferior and more threatening (blinded for review, 2012). Grausgruber and colleagues (2007) found a non-significant relationship between mental health professionals' genetic causal beliefs and desire for social distance from people with schizophrenia. There are several implications associated with mental health professionals' causal beliefs, which could have a considerable impact on treatment outcomes and recovery. For example, mental health professionals' causal beliefs have been found to: influence their choice of treatment modality and perceived effectiveness of the treatment they recommend; and, affect emotional responses to consumers, such as empathy and blame (Goldstein & Rosselli, 2003; Hansson, Jormfeldt, Svedberg, & Svensson, 2013; Iselin & Addis, 2003; Blinded for review, 2012 Blinded for review, 2017a; Lebowitz & Ahn, 2014; Miresco & Kirmayer, 2006). T

The purpose of the current study is to examine the causal beliefs about mental illness that mental health professionals endorse, and factors that influence the development of these beliefs. In addition, this study aims to explore how mental health professionals' causal beliefs may influence their perceptions of people with mental illness. A qualitative approach was chosen as there is limited research on this topic and such an investigation should provide a more in-depth understanding of the mental health professionals' perspective.

## Method

### Recruitment

Approval for this project was received from the University of Canberra Committee for Ethics in Human Research. The first author conducted all the recruitment and interviews. The first author is a psychologist who works in the public mental health sector in Canberra. She used professional contacts and approached a number of mental health professionals regarding potential participation in this project, and recruitment was by means of snowballing. Potential participants were provided with information about the project and were asked to contact the first author if they wanted to take part in the study. Potential participants were also asked to distribute study information to other mental health professionals who may be interested in participation. Face-to-face individual interviews were then organised with the mental health professionals interested in participation at a location convenient to them – all participants chose their workplace. Informed consent was obtained prior to the interview and participants were aware that they could withdraw from the study at any time. Participants received movie ticket vouchers as a token of appreciation for their time.

### Participants

This study included 17 mental health professionals, who were employed in the public mental health system in Canberra, Australia. There were 14 females (82%) and three males (18%), aged between 26 and 59 years (M = 36.71, SD = 10.15). Years of experience working with people with mental illness ranged from one year to 29 years (M = 11, SD = 7.60). Mental health clinicians came from a range of different disciplines including: Psychiatry (n = 3), Psychology (n = 5), Nursing (n = 3), Occupational Therapy (n = 3), and Social work (n = 3).

## Data Collection

A semi-structured interview schedule was developed to explore mental health professionals' causal beliefs (see Table 1). Demographic information was collected along with questions which aimed to explore participants' beliefs about the causes of mental illness, the nature of these causal beliefs, factors that influenced the development of these causal beliefs and how these beliefs influence perceptions towards people with mental illness. The first author, who conducted all of the interviews, had a professional relationship with all the participants. As such, the interviews were conversational, attempting to be non-leading, curious, and non-judgemental to minimise the influence of social desirability. Following Hill (2005), mental health professionals were consulted in the development of the interview protocol and questions were modified as a result of feedback received. In addition, two pilot interviews were conducted, however, the interview protocol was not modified significantly as a result of these pilot interviews and data from these interviews were included in the study. The interviews yielded an abundance of rich data some of which was not analysed in the current study.

## Data Analysis

Transcripts of the interviews were analysed using thematic analysis, a method for identifying and analysing patterns and themes that emerge in qualitative data (Braun & Clarke, 2006). The first stage of analysis involved immersion in the data which included reading each transcript several times and then identifying possible codes. Next, similar codes were grouped together and explored in detail; these were then grouped into themes. Data were coded with a synthesis of inductive and deductive principles. Initially, coding followed an inductive approach, in which the author made no attempt to fit data into any preconceived codes or themes, but rather grouped similar data together. Then a deductive approach was used to explore causal beliefs in more detail and a "theory-driven" approach was used to code the causal beliefs into three categories (biogenetic, psychological, and environmental) guided by definitions presented by Ahn, et al. (2009). Finally, transcripts were reviewed to identify quotes that best represented the themes which had been identified. Coding consistency and inter-rater reliability were conducted to test coding reliability. Initially, coding of all transcripts was completed by the primary author, who then re-coded six clean (i.e., un-coded) transcripts to assess coding consistency over time (Richards, 2005). A second independent researcher also coded the same six (clean) transcripts, and then inter-rater reliability was assessed. Coding assignment was compared between coders with a calculated Kappa coefficient of .93, with values greater than .75 generally considered excellent (Landis & Koch, 1977).

For part of the analysis, mental health professionals were split into two groups based on their years of professional experience. The median years of experience (8 years) was used to divide the clinicians into two groups; eight years and below was considered to have less professional experience (n = 9), and above eight years was considered to have more professional experience (n = 8). The median split method to dichotomise data to form low and high groups is a common method used (MacCallum, Zhang, Preacher, & Rucker, 2002), and thus was thought to be appropriate for this analysis. Making comparisons between these groups was appropriate given the overall size on the sample was large enough that the size of each subgroup was still within the recommended size for qualitative research (Hill et al., 2005). The less professional experience group comprised of: a nurse (n = 1), occupational therapists (n = 2), social workers (n = 2), and psychologists (n = 4). The more professional experience group comprised of: an occupational therapist (n = 1), a social worker (n = 1), a psychologist (n = 1), nurses (n = 2), psychiatrists (n = 3). In line with the Consensual Qualitative Research Method (Hill et al., 2005), the frequency of participants responses were labelled to help determine the level of representativeness of responses and themes. Four frequency levels were used: few (less than 10%), some (10% to 50%), most (51% to 90%), and all (91% to 100%).

**Table 1.** Semi-structured interview schedule

| Research Area | Interview Question | Prompts/follow-up questions |
|---|---|---|
| Demographics | What is your age & gender?<br>What discipline are you from?<br>How many years of experience do you have? | |
| Own causal beliefs | What do you believe the causes of mental illness are? | You may believe there are many different causes of mental illness, what are some of the possible causes?<br>Do you think there are certain factors which are the main causes of mental illness?<br>Do you think different mental illnesses are caused by different causes? |
| Development of causal beliefs | What do you think has influenced the development of your causal beliefs? | Where you taught about the causes of mental illness in your training?<br>Has your clinical experience influenced your causal beliefs? How? |
| Causal beliefs and perceptions | Do you think that your beliefs about the causes of mental illness influence your view of people with mental illness? | In what ways?<br>Do your beliefs around the causes of mental illness impact any of your behaviours?<br>Do you think your beliefs have an impact on your prognosis? |

Please note that not all data from the semi-structured interview were included in this paper, and thus only the section of the interview schedule that pertains this is paper is presented in this table.

## Findings

There were four aspects prominent to the understanding mental health professionals' causal beliefs: the first related to the type of causal beliefs mental health professionals endorsed; the second focused on how these causal beliefs had developed; the third explored the impact that causal beliefs had on perceptions of mental illness; and, the final theme looked that how professionals' experience influenced causal beliefs and perceptions towards mental illness.

## Causal Beliefs

All mental health professionals identified a range of factors that contributed to mental illness, with each clinician mentioning an average of 7.88 causes (SD = 3.95). There were 58 distinct causes within the data that were coded into three types of causal beliefs: biogenetic, psychological, and environmental. All mental health professionals suggested more than one type of causal belief, with most participants mentioning biogenetic causes first when discussing their causal beliefs. It is possible that participants mentioning biogenetic causes in the first instance reflects the previous research which shows that there has been an increase in endorsement and awareness of biogenetic causes (Schomerus et al., 2012), and may also reflect training in a medical model framework.

All participants endorsed both biogenetic and environmental causes, with most clinicians endorsing a combination of biogenetic, psychological, and environmental causal beliefs, as the participant in Extract 1 discusses.

**Extract 1**

*Probably before studying mental health I couldn't, I don't know what I would have said then. But now I definitely say biopsychosocial. For all people there's some type of really strong biological component. Others have like a psychological predisposition/psychological experiences. And then social being the, what's going on in their life at that given time, and the social influences in the environment. Yeah, a combo [combination], and some are heavier [more significant] than others, but they're all interlinked to me.*

While the results clearly indicate that mental health professionals endorse more than one type of causal belief ("they're all interlinked"), most participants thought that there was a main cause or a stronger causal factor. Biogenetic causes were the most commonly reported main cause, for example, one participant simply stated: "I think the main cause is biological!". Most participants thought that different types of mental illness were caused by different factors or that the causal factors had differing weightings depending on the type of illness. For example, one participant stated, "If you just look at the amount of, or the significance, that genetics plays in different illnesses, you can clearly see that some of them [mental illnesses] are more genetic than others". Some participants thought that mental illness resulted from differences between individuals "it can be different for everyone", rather than particular causal factors resulting in a particular type of mental illness, with one participant stating:

**Extract 2**

*I think there's different things for everybody. I've seen older people who have a psychosis without any drug and alcohol use, other people who have been perfectly fine, use some drugs and then become unwell. So I think it can be different for everyone, but definitely that genetic factor probably contributes to that a lot. I mean, of course you see trends there, such things as trauma and then a personality disorder. There's definitely trends, but I think its individual at the end of the day.*

Previous research has suggested that mental health professionals' causal beliefs are on a continuum ranging from psychological to biological causes (Ahn et al., 2009). Our findings are not consistent with this research, and show that participants identified a wide range of causes and endorsed multiple causes simultaneously (see Extract 1). Despite endorsing a combination of causal beliefs, most participants tended to think that there was a main cause of mental illness "the main cause is biological" and that different mental illnesses were caused by different factors, "some of them [mental illnesses] are more genetic than others". Therefore, mental health professionals could put more emphasis on a particular cause depending on the diagnoses consumers presented with. This is consistent with previous research which has shown that mental health professionals believe that different mental illnesses are caused by different factors (Ahn et al., 2009).

## Development of Causal Beliefs

All participants were able to identify factors that influenced the development of their causal beliefs. Most participants thought that their causal beliefs were a result of a combination of their formal training and their clinical experience. Clinical experience was the most commonly reported influencing factor, with one participant explaining:

**Extract 3**

*Look, I mean, it's hard to unlearn what you've learned throughout your degree. I guess being taught about the biopsychosocial model really did influence my beliefs. I guess pre that, just seeing people around me who suffered from depression or anxiety, I could just, I guess, see from those examples that it's not just any one factor that leads to it. Then, in the work we do every day, I guess I can just see that it's not so simple as one factor causing any particular mental illness. I would say it's a whole combination of things that have led to me believing that it's [mental illness is caused by] a mix of factors.*

Some mental health professionals reported that they had received little or no training around the causes of mental illness, with participant saying "I really haven't had much training about the causes. It's always been about the treatment of, but yeah, not a lot around the causes". In the following extract, another participant expands on their understanding of mental illness causes.

**Extract 4**

*I think every family has mental illness within it. You'd have your own ideas about mental illness growing up. I think it touches every family. I think the thing that's majorly influenced my belief, sort of views on mental illness, is working in it, seeing friends as I've grown up develop it, and seeing family members suffer from it.*

As in Extract 4, some participants identified that contact in their personal life with mental illness influenced their understanding and causal beliefs. Relevant to more participants, however, were ongoing professional development activities that influenced their understanding and beliefs around what causes mental illness. Indeed, most participants reported that clinical experience had had the biggest impact on their causal beliefs, with one participant stating "My patients are my best teachers... I attend conferences. I speak with my colleagues. I do all of those professional bits, but still, my patients are still my best teachers". In addition, most mental health professionals explained that their clinical experience had changed their causal beliefs in some way with the majority of these participants explaining that through their clinical experience they had started to put more weighting on environmental factors, with the following participant explaining "The increased weight I put on trauma and life events has been through my experiences working with clients and spending time with them". As in Extract 5, some participants talked about how certain populations that they had worked with had increased their endorsement of certain causal factors.

**Extract 5**

*[Particularly] working with young people, seeing the influence of peers and how those environmental factors paired with particular periods of schooling, you know, when exam period comes on, that those are the times that I can see young people particularly suffering from anxiety or depression.*

The finding that not all participants' received training around the causes of mental illness "I really haven't had much training" is concerning, given the potential impact that causal beliefs have on stigma and treatment outcomes (Lebowitz & Ahn, 2014; Phelan, 2005). The majority of participants thought that the development of their causal beliefs was primarily influenced by their clinical experiences. Therefore, it seems likely that mental health professionals' working in different settings and with different populations may endorse different causal beliefs (see Extract 5). Overall, these findings highlight the need for further investigation into mental health professionals' causal beliefs, in order to explore how training and experience influence the development of causal beliefs and if there are differences across disciplines and work settings in regard to what causal beliefs are endorsed.

## Causal Beliefs and Perceptions of Mental Illness

Most mental health professionals identified that their beliefs about what causes mental illness have an impact on their perceptions towards people with mental illness, with one participant remarking "I probably like to say it [causal beliefs impacting perception] doesn't, but I think it probably does". Some mental health professionals felt as though their beliefs about the causes of mental illness did not influence their perception towards people with mental illness, with one occupational therapist saying "I don't think it [my causal beliefs] influences my view [of people with mental illness]". Some participants thought that their causal beliefs had a positive impact on how they viewed people with mental illness. Specifically, in line with attribution theory (Weiner et al., 1988), some participants reported that their causal beliefs helped to reduce the blame they placed on the individual, increased compassion and empathy, and increased understanding. For example, in Extract 6, a participant discusses his thoughts in response to being asked if causal beliefs had an impact on his perception towards people with mental illness.

**Extract 6**

*I guess they do, but I would hope not in a negative way. Umm, I suppose if you think everything's genetic then you adopt a very fatalistic response to everything. Whereas if you think everything's environmental, if causes are all environmental, then you think, well this person has made some choices that have led them to this. I think having a balance of both, which is probably more consistent to where mental disorders do originate from, it is a balance of both, it helps us to understand that it's not particularly a patient's fault. We don't choose our parents, as much as we'd like to [laughs]. Seeing that they [consumers] had no choice about that, so we can't blame, I think it helps us adopt a non-judgmental style of practice, understanding that causality, it clearly is beyond the patient's choice or willpower.*

The participant in Extract 6 thought that his causal beliefs had an overall positive influence, however, some participants reported that their causal beliefs at times had a negative impact on how they viewed people with mental illness (see Extract 7). Specifically, that at times their frustration with consumers increased and they would make assumptions about factors that contributed to the development of mental illness in their client (e.g., drug use).

**Extract 7**

*I'd like to say no [that causal beliefs don't influence my perception], but I think it probably does... I guess depending on the illness. You know, it's sometimes hard not to carry your own judgements about people and judgements about, you know, say if you've got a consumer with schizophrenia that has IV ice use and that sort of thing, your capacity to feel like your treating them well and treating them compassionately, it sort of diminishes a bit... I guess you sort of feel that they play a role in their own demise in many ways. That can be really frustrating.*

Extract 7 demonstrates that attributions of responsibility appear to increase blame and decrease compassion. Another factor that is thought to be influenced by causal beliefs is prognostic pessimism. Some participants thought that their causal beliefs did not influence their perception of prognosis, with one participant explaining "I don't think that my causal beliefs impact on prognosis. I think my own observation of working with people who experience schizophrenia might. I look at that being a lifelong hardship that people experience." However, some participants, such as the participant in Extract 8, thought that their causal beliefs had in impact on their perceptions of prognosis.

**Extract 8**

*Sometimes the cause may make me feel like, you know, it kind of doesn't matter what I do or say, this [mental illness] is just going to continue as it is, and not much is going to change it. Or, other causes I guess might make me feel a bit more hopeful about prognosis, or feel like there is definite steps [to take in treatment], and a distinct or a particular time frame that things could really improve.*

In general, these findings suggest that mental health professionals' causal beliefs have an impact on perceptions towards consumers. However, our findings suggest that these relationships may be complex, with causal beliefs appearing to have both positive and negative consequences and which influence a range of variables. For instance, the participants in Extract 6, Extract 7, and Extract 8, highlight that, strong endorsement of environmental factors, may lead to viewing consumers as responsible for their illness and thus result in increased blame and reduced compassion, while strong endorsement of biogenetic factors appears to increase prognostic pessimism.

### Professional Experience, Causal Beliefs and Perceptions of Mental Illnesss

It was found that the more professional experience group mentioned more causal beliefs (M = 8.13, SD = 5.47) than the less professional experience group (M = 7.67, SD = 2.24). Given that participants commonly attributed the development of their causal beliefs to their clinical experience (see Extract 3), it would appear that with more clinical experience participants are exposed to a wider range of consumers who may present with different causal factors. Thus, mental health professionals' experience may increase the number of/types of causal factors that they endorse, and their beliefs may become more complex and varied over time. When looking at the types of causal beliefs endorsed, the groups did not appear to differ greatly, with most participants in each experience group endorsing a combination of biogenetic, psychological, and environmental causal beliefs and some participants in each group just endorsing biogenetic and environmental factors.

While participants endorsed multiple causal beliefs, most of the participants in the less professional experience group reported that they thought there was likely to be a main cause of mental illness, while most of the participants in the more professional experience group did not think that there was a main cause of mental illness (i.e., thought the causes were more complex). As previously mentioned, biogenetic causes were the most commonly reported main factor in this study. The increase in awareness and promotion of biogenetic causes over the past few decades has seen a rise in the endorsement of biogenetic causes in the general public (Schomerus et al., 2012). It is likely that mental health professionals go into their training and career endorsing similar causal beliefs to the general public, and then are likely taught a mental medical model of illness, and thus may view biogenetic causes as the main or stronger causal factor. It then appears that with more clinical experience mental health professionals endorse more causes and no longer view mental illness to be caused by a main factor.

When considering whether causal beliefs had an impact on perceptions towards people with mental illness, there appeared to be differences between the less professional experience and the more professional experience groups. In the less professional experience group, some participants thought that their causal beliefs had a positive impact on their perception towards people with mental illness, some participants reported that their causal beliefs had a negative impact on their perceptions towards people with mental illness, and most participants did not think that their causal beliefs influenced their perceptions towards people with mental illness. In the more professional experience group, most participants thought that their causal beliefs had a positive impact on how they view people with mental illness, with some participants reporting that they did not think their causal beliefs influenced their perceptions towards people with mental illness, and no participants reporting that their causal beliefs had a negative impact on how their view people with a mental illness. These results suggest that participants with more professional experience feel that their causal beliefs have less of a negative impact on their attitudes towards people with mental illness. A possible explanation of these findings is that endorsing a wider range of causal beliefs, without believing that there is a "main" cause which may improve perceptions and attitudes towards people with mental illness. Alternatively, it is possible that contact (in this case more professional experience), may act as a moderating factor between causal beliefs and attitudes towards people with mental illness.

## Discussion

This study explored mental health professionals' beliefs about the causes of mental illness and expands the current understanding of the relationships between causal beliefs and perceptions towards mental illness. First, we found that participants endorsed a range of causal beliefs simultaneously with the majority of participants endorsing a combination of biogenetic, psychological, and environmental causes. Despite endorsing a combination of causal beliefs, participants tended to believe there is a "main" cause of mental illness (with biogenetic causes being the most commonly reported main cause), and that different mental illnesses are caused by different factors. Second, participants thought that their causal beliefs were a result of a combination of their formal training and their clinical experience. However, several participants thought that they did not receive significant training around causes, with clinical experience having the biggest impact on the development of causal beliefs. Third, we found that participants thought that their causal beliefs influenced their attitudes and perceptions towards people with mental illness, and participants identified both positive and negative consequences of their causal beliefs. Last, participants who had more professional experience seemed to have a more complex belief system and endorsed a wider range of causal beliefs and were less likely to think that there was a "main" cause (compared to those with less professional experience). Participants with more professional experience also tended to think that their causal beliefs did not have a negative impact on their perceptions towards people with mental illness.

Attribution theory, genetic essentialism, and the mixed-blessing model (Dar-Nimrod & Heine, 2011; Haslam & Kvaale, 2015; Weiner et al., 1988), all propose that causal beliefs will have an impact on perceptions towards mental illness, in particular, stigma. Our results mirror this sentiment, with the majority of participants identifying that their causal beliefs impact their attitude towards people with mental illness. While this study was not designed to test the validity of different models, it does appear that results are more in line with the mixed-blessing model, as causal beliefs seemed to have both positive and negative consequences. The mixed-blessing model suggests that endorsement of biogenetic causal beliefs would reduce blame but would have a negative impact on other components of stigma such as prognostic pessimism (Haslam & Kvaale, 2015). In our study, participants often commented on how their causal beliefs reduced blame towards consumers and increased feelings of compassion and empathy. However, participants noted that their causal beliefs often had a negative impact on their view of prognosis.

Our study focused on causal beliefs in general rather than focussing only on biogenetic causes (as per mixed-blessings model). Further research is needed to explore the role that different types of causal beliefs have on perceptions of mental illness and to further explore the validity of the mixed-blessing model by controlling for the impact that other causal beliefs may contribute.

There are several clinical implications associated with our finding that mental health professionals' causal beliefs influence their view of consumers. Causal beliefs appear to impact mental health professionals' emotional response to consumers. For example, participants in our study stated that their causal beliefs shaped their feelings of compassion and empathy towards their consumers, which would likely have an impact on the therapeutic relationship. This conclusion is consistent with some of the previous limited research which also suggests that causal beliefs can have an impact on mental health professionals' emotional responses, such as empathy and blame (Lebowitz & Ahn, 2014; Miresco & Kirmayer, 2006). Empathy has previously been found to be an important factor which helps to enhance and build a therapeutic alliance, and also predicts therapeutic outcomes (Elliott, Bohart, Watson, & Greenberg, 2011). Therefore, it is important for mental health professionals to be aware of their own causal beliefs and to reflect on how these beliefs may influence important treatment factors such as therapeutic alliance. Consumers' causal beliefs have been found to influence their self-stigma and approach to treatment (blinded for review, 2017b; blinded for review, 2017c). Moreover, mental health professionals' causal beliefs would influence how they explain mental illness to their clients, which would play a role in shaping consumers' causal beliefs (Ahn et al., 2009; Lam, Salkovskis, & Warwick, 2005). Understanding the impact that mental health professionals' causal beliefs have on the therapy journey and the development of consumers' causal beliefs are important in future research.

Participants with more professional experience thought their causal beliefs had a more positive impact on their perceptions towards people with mental illness, suggesting that experience influences perceptions towards mental illness. Alternatively, it is possible that mental health professionals with negative perceptions of mental illness may stop working in the field, and thus people remaining (i.e., with more experience) may have more positive views. Contact and experience have previously been found to influence mental health professionals' perceptions towards people with mental illness (Lauber et al., 2006). Unfortunately, contact and experience are often difficult to control, as many mental health professionals have little control over the quantity or quality of contact they have with people with mental illness in their work environment. Contact may offer limited utility in trying to reduce stigma or improve perceptions towards people with mental illness in this context. On the other hand, causal beliefs may be easier to influence in training, thus if more attention is placed on causal beliefs in training, it may be helpful in the efforts to improve mental health professionals' perceptions towards people with mental illness.

It appears that participants adhere to the biopsychosocial model of mental illness (Engel, 1977), which has dominated the mental health field since it's conception in the 70's and argues that clinicians must attend simultaneously to biological, psychological, and social factors (Borrell-Carrió, Suchman, & Epstein, 2004). It is likely that some participants were taught the biopsychosocial model in their formal education, and the finding that most participants endorse a combination of biogenetic, psychological, and environmental factors suggests that they are still influenced by their formal education (see Extract 3). However, several mental health professionals identified that they received little or no training on causes of mental illness. Thus, more attention should be placed on learning about causes of mental illness and how to address these with consumers, during mental health professionals' formal education. In particular, formal education should focus on presenting information on a range of causes and encourage individuals to reflect on how their beliefs about causes may impact their view of people with mental illness. If mental health professionals receive training later in their career, it is likely that they will have already have formed strong views regarding causality and, as a result, attitudes may be harder to modify (Lam & Salkovskis, 2007).

While this study provides important insight into mental health professionals' causal beliefs, it is not without limitations. Past research has shown that there can be a difference in causal beliefs endorsed between different professional groups, and that different professional groups may have different levels of stigma (Kent & Read, 1998; Lauber et al., 2006). It is possible that results were influenced by the fact that we included a range of professional groups. However, we chose to include multiple disciplines to reflect community mental health services which are generally multidisciplinary. Future research would benefit from exploring differences between professional groups to help understand whether the type of training received influenced their causal beliefs. Another limitation of this study is that the primary researcher had a professional relationship with all the participants and knew them prior to conducting the interviews. As such participants would have been aware that they would have an ongoing professional relationship with the first author and this may have influenced the results. It is possible that participants gave responses that were more socially desirable than they would have been, if they had not known the interviewer or were responding to a questionnaire. As a result, negative perceptions of mental illness may have been under-reported. However, the results did imply that negative perceptions towards mental illness differed between the more and less professional experience groups. The division into more or less professional experience was not random, with different professional groups representing in the two groups, suggesting that participants may have been forthcoming with their responses and not influenced by knowing the primary researcher. Although the primary researcher having a professional relationship with participants may have also contributed to the depth and detail of data, participants all appeared comfortable and forthcoming with information during the interviews.

This study contributes to the very limited research on mental health professionals' causal beliefs and how these beliefs influence attitudes and perceptions towards consumers. Our results show that mental health professionals endorse a range of causal beliefs and that these beliefs are formed primarily through their clinical experiences as opposed to formal training. Most importantly, the results of this study show that mental health professionals' causal beliefs influence perceptions towards consumers and at times influence factors such as blame and prognosis which are likely to have an impact on treatment outcomes. These relationships should continue to be explored

in future research, and consideration should be given to how this knowledge could be utilised to help improve mental health professionals' attitudes and perceptions towards consumers. Moreover, an increased understanding of how mental health professionals' causal beliefs influence treatment-related factors is important for improving the treatment and services provided to consumers. It would also be important to explore consumers' causal beliefs and their experiences of causal beliefs in the treatment process.

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The authors declare that there is no conflict of interest.

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