MENTAL ILLNESS STIGMA AMONG MIDDLE EASTERN CANADIANS
A MIXED METHODS STUDY

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A DISSERTATION SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

GRADUATE PROGRAM IN PSYCHOLOGY
YORK UNIVERSITY
TORONTO, ONTARIO

MAY 2017

Abstract

Mental illness stigma (MIS) is a global phenomenon, which perpetuates the distress associated with the symptoms of mental illness by acting as a deterrent to treatment (Tzouvara, Papadopoulos, & Randhawa, 2016). Research has highlighted disparities in the expression of MIS cross-culturally. However, little is known about MIS in the Middle Eastern Canadian (MEC) context. To address this gap in the literature, the current study employed a concurrent mixed methods design to assess the impact and explore the nature of MIS among Middle Eastern relative to White, Black, and South Asian Canadians (*n* = 424). A hierarchical regression analysis was performed to determine whether the perception of MIS in one's ethno-racial community acts as a greater deterrent to help-seeking in Middle Eastern versus White participants, after controlling for social desirability, familiarity with mental illness, and degree of identification with one's ethno-racial group. A second set of hierarchical regression analyses, alongside a qualitative content analysis, were used to explore the nature of MIS among MEC. As for the impact of MIS, results showed that perceived public MIS was a greater deterrent to help-seeking among MEC than it was among those identifying as White. No differences were found between the Middle Eastern and the South Asian or Black groups. In terms of the nature of MIS, quantitative findings suggested that MEC endorsed higher levels of anxiety and social distance, both proxies for MIS, than White and Black Canadian groups respectively. In all cases, the effect of ethno-racial group on MIS was small. Between group differences on six other subscales assessing prejudice toward persons affected by mental illness (PABMI) were not significant after accounting for the effect of familiarity with mental illness on the dependent variables. Qualitative findings extended these results by highlighting other stereotypes about PABMI endorsed by MEC, not captured in the quantitative measures, namely, that PABMI are inadequate, crazy, different, a failure and a nuisance, and that their experience is invalid. Findings underscore the importance of incorporating contact with PABMI in anti-stigma campaigns, and of adapting these to the stereotypes about PABMI commonly held by members of a particular ethno-racial group.

Dedication

To my husband, for his support and encouragement at every step of this process.

Acknowledgments

The author would like to thank Joel Goldberg, Karen Fergus and David Reid for their guidance in preparing this thesis. The author would like to also thank Alyssa Counsell and Rob Cribbie for their assistance with the statistical analysis of this research.

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Introduction

Mental illness is pervasive and its impact is concerning. The twelve-month prevalence of common mental disorders worldwide approaches 20% (Steel et al., 2014). Lifetime prevalence estimates exceed one in four in countries like South Africa, Belgium, France, Germany and New Zealand (Kessler et al., 2009), and are nearly double that in parts of the western world (Vasiliadis, Lesage, Adair, Wang, & Kessler, 2007). With its global scope, it is not surprising that research has identified mental illness as the leading cause of years lived with a disability worldwide (Vigo, Thornicroft, & Atun, 2016). Still, between one and two thirds of persons affected by mental illness (PABMI) do not seek professional support, despite knowledge that it may be of benefit to them and despite the encouragement of family and friends (Alvidrez, Snowden, & Kaiser, 2008; Andersson et al., 2013; Andrews, Issakidis, & Carter, 2001; Narrow et al., 2000).

While the pervasiveness and impact of mental illness is alarming, so too is the stigma of mental illness. Stigma is the devaluation of an individual based on their affiliation with a group that is disfavoured or devalued by others (Hinshaw, 2007). Stigma has been studied in relation to groups who are disgraced on the basis of racial identity (Brown & Lee, 2005), illness status (Earnshaw et al., 2014; Shacham, Rosenburg, Önen, Donovan, & Overton, 2015) and sexual orientation (Pistella, Salvati, Ioverno, Laghi, & Baiocco, 2016) among others. Over the past 20 years, stigma has also been examined in relation to PABMI. In this instance, stigma occurs when an individual is mistreated or degraded by members of the community upon being labelled “mentally ill” or upon displaying behaviours stereotypically associated with this group (Abdullah & Brown, 2011; Link, Cullen, Struening, Shrout, & Dohrenwend, 1989).

Mental Illness Stigma

Three types of mental illness stigma have been distinguished in the literature (Busby, Bruce, & Batterham, 2016). *Perceived public stigma* refers to an individual's perception of the public as maintaining negative stereotypes and prejudicial attitudes, and as expressing discrimination towards PABMI even though the individual may not personally agree with those views and behaviours (e.g., person A perceives the public as endorsing the stereotype "all PABMI are dangerous," although person A may not believe this to be true). In contrast, *personal stigma*[1] applies when an individual endorses these negative beliefs, attitudes, and behaviours about the target group (e.g., person A believes that "all PABMI are dangerous.") Finally, *self-stigma* occurs when a member of the target group internalizes the public's stigmatizing beliefs and attitudes (e.g., PABMI believing "I am a danger to others.") The current study is interested in stigma expressed by members of the non-target group (i.e., perceived public stigma and personal stigma). The term *mental illness stigma*, or MIS, will be used to refer to these two constructs collectively.

In North America, PABMI have been identified as one of the most highly stigmatized groups (Stuart, 2008). As an illustration, one Canadian study found that one in three respondents were afraid or suspicious of people with a serious mental illness, and nearly as many believed it would be inappropriate for PABMI to live among them in the community (Stip, Caron, & Mancini-Marïe, 2006). In this same study, respondents also predicted that an employee is likely to be fired if their employer suspects they have a serious mental illness. Studies in the United States have yielded similar findings. Relative to persons affected by physical illness, PABMI are

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[1] The term *public stigma* is also sometimes used in the literature to describe this experience. However, the term *personal stigma* will be used here to facilitate its distinction from *perceived public stigma*.

often believed to be at greater danger to themselves and others (Corrigan, Kuwabara, & O'Shaughnessy, 2009; Martin, Pescosolido, & Tuch, 2000), and are considered less equipped to make financial and treatment-related decisions (Pescosolido, Monahan, Link, Stueve, & Kikuzawa, 1999). Members of the public also attempt to minimize their interactions with, or maintain social distance from, PABMI to a greater extent than they do with persons with physical disabilities (Corrigan et al., 2009; Martin et al., 2000).

Mental illness stigma is certainly not confined to Western society. Rather, it is likely to co-occur with mental illness in all parts of the world (see for example Rose et al., 2011 for a description of MIS as it is expressed towards individuals with psychosis across 15 countries). In India for instance, researchers found that 75% of respondents believed that PABMI are dangerous, violent, unpredictable, malodorous and dirty (Gaiha, Sunil, Kumar, & Menon, 2014). Additionally, more than half suspected that PABMI feign symptoms to elicit sympathy from others or to avoid responsibilities. These stigmatizing attitudes were linked to avoidance and differential treatment of PABMI. For example, most participants reported that they would not rent property to PABMI, and nearly half stated that they would not want their children to marry a member of this group. In another study, 667 interviews were conducted to assess beliefs about the cause of mental illness among members of a community in South Africa (Hugo, Boshoff, Traut, Zungu-Dirwayi, & Stein, 2003). Results showed that symptoms of mental illness were most often misattributed to a lack of willpower. Similar findings were reported in an Italian study, wherein an association between depression and "personal weakness" was reported among half of participants (Munizza et al., 2013). Finally, Alonso and colleagues (2008) reported that individuals with depression and anxiety endorse greater embarrassment and perceived discrimination based on their illness, than do persons with a physical condition, across 13 of the 17 countries under investigation.

Mental illness stigma as a barrier to treatment. In a report released at the turn of this century, the World Health Organization identified MIS as the single most important barrier facing mental health care (Murthy et al., 2001). While the symptoms of a psychological disorder can be quite distressing and debilitating for PABMI, MIS exacerbates this suffering by encouraging societal ostracization of the afflicted, by promoting self-stigma, and by acting as a deterrent to treatment (Corrigan, 2007; Levy et al., 2014; Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001; Rüsch, Angermeyer, & Corrigan, 2005; Sewilam et al., 2015; Tzouvara et al., 2016). Indeed, upwards of one third of PABMI will not seek help, even if they believe it is warranted, citing stigma as a main concern (Andersson et al., 2013; Corrigan, 2004; Menke & Flynn, 2009).

Accessing treatment is not a simple process. It often necessitates a recognition that one's difficulties may pertain to one's mental health, a willingness to seek or accept information about available resources, an intent to access said resources, as well as the translation of this intent into action. Research suggests that MIS may interfere with each step of this process. For instance, in a study by Alvidrez, Snowden and Kaiser (2008), MIS was identified as an impediment to acknowledging that participants' distress may be associated with mental health problems. In a qualitative study by Mishra, Lucksted, Gioia, Barnet and Baquet (2009), African American participants also cited stigma as one of the main reasons persons in their community are reluctant to access mental health information and services. In a university campus study by Jennings and colleagues (2015), MIS was associated with negative attitudes towards seeking support for mental illness among American undergraduate psychology students. It was similarly associated with reduced treatment-seeking behaviour in the subsample of students identified as having mental health problems. Conversely, lower levels of perceived public stigma have been associated with positive attitudes towards help-seeking among Asian American college students (Shea & Yeh, 2008).

Other research has linked MIS with reduced mental health service use more generally. In a study by Clement and colleagues (2012), worries about being perceived as weak by co-workers, as well as anticipated discrimination in the workplace, were identified as deterrents to seeking treatment among American adults. Findings were corroborated by Ouimette and colleagues (2011) in a study of military veterans. Experienced and anticipated MIS have additionally been linked to medication non-adherence and treatment discontinuation among adults with major depressive disorder (Interian, Martinez, Guarnaccia, Vega, & Escobar, 2007; Sirey, Bruce, Alexopoulos, Perlick, Friedman, & Meyers, 2001; Sirey, Bruce, Alexopoulos, Perlick, Raue, Friedman, & Meyers, 2001).

Similar results have been reported in studies conducted abroad (Handley et al., 2014). For example, in his review of survey data collected from 29 248 participants across 25 countries in the European Union, Mojtabai (2010) linked community stereotypes about PABMI (e.g., PABMI as being unpredictable and to blame for their problems) with reduced willingness to access treatment among PABMI. Yousef and Deane (2006) similarly identified MIS as a hindrance to seeking services in a qualitative study which interviewed Arabic speaking mental health workers, community leaders and teachers in Australia. They concluded that MIS was an especially powerful deterrent to seeking treatment in the Arab community, given cultural prohibitions which discourage the communication of problems to persons outside the family unit.

Differences in Mental Illness Stigma Across Race, Ethnicity and Culture

Together, these findings suggest that MIS and its consequences transcend borders and race. What remains to be explored is how this ubiquitous phenomenon takes shape across ethnic and racial divides. Indeed, although MIS has been studied in several parts of the world, it has often been examined without consideration of the ethnic or cultural differences within a given population that may influence its expression. In so doing, important nuances in the nature, experience, manifestation and impact of MIS are likely to be missed (Abdullah & Brown, 2011; Yang et al., 2013).

Although research on the topic remains sparse, a review of the emerging literature examining ethno-racial and cultural disparities in MIS in North America suggests that ethno-racial minority groups typically endorse higher levels of MIS than persons identifying as White (Angermeyer, Buyantugs, Kenzine, & Matschinger, 2004; Rao, Feinglass, & Corrigan, 2007; Weiss, Jadhav, Raguram, Vounatsou, & Littlewood, 2001). As an example, studies evaluating MIS among South Asian Americans suggest that members of this group are more likely to attribute symptoms of mental illness to a character flaw (Mokkarala, O'Brien, & Siegel, 2016), and to avoid contact with PABMI (Loya, Reddy, & Hinshaw, 2010) than persons identifying as White American. A similar pattern has been observed among African American community members. In a study by Wang and colleagues (2013), African American social work students reported a greater desire for social distance from PABMI than did participants who identified as White (Wang, Locke, & Chonody, 2013). They were also more likely to attribute mental illness to an immoral or sinful life than the reference group. Yang and colleagues (2013) similarly reported that Chinese Americans were more likely to endorse stigmatizing beliefs towards PABMI (e.g., that members of this group should not be allowed to marry or procreate) than a

European American comparison group (Yang et al., 2013). Several authors have proposed that these differences in MIS may contribute to the relative underrepresentation of ethno-racial minority groups in mental health treatment settings across North America (Brown et al., 2010; Conner, Koeske, & Brown, 2009; Cruz, Pincus, Harman, Reynolds, & Post, 2008; Loya et al., 2010).

Four American studies examining clinical populations affected by major depression are reviewed in support of the proposition that MIS may contribute to the underrepresentation of ethno-racial minority groups in mental health treatment facilities. In the first of these, Huang and colleagues (2007) interviewed 1392 new mothers with moderate to severe depression (Huang, Wong, Ronzio, & Yu, 2007). Authors found that both foreign-born and non-White American-born women were less likely to believe that they needed help to address their emotional concerns than women born in the United States who were White. The two former groups were also less likely to have engaged the support of a mental health professional in the past year. In another large-scale study, Menke and Flynn (2009) reported that White racial identification significantly predicted treatment use in outpatients with depression, relative to individuals identifying as African American. Nadeem and colleagues (2007) reported similar findings and linked these ethno-racial differences to MIS. Their study assessed interest in mental health treatment among American-born White, American-born non-White, and immigrant women with depression. Results showed that immigrant African, immigrant Caribbean, and American-born Black women were less likely than American-born White participants to want treatment. Further, a stigma-by-immigrant status interaction was reported, whereby MIS was found to be a greater deterrent to expressed interest in mental healthcare among immigrant women than among White American-born women. In the fourth study, African American persons engaged in psychotherapy for depression were interviewed about their perception of barriers to accessing mental health care. Results from the qualitative analysis suggest that participants blamed MIS for statistics showing that members of their community are half as likely to seek treatment for mental health problems than are White Americans facing similar concerns (Cruz et al., 2008)[2].

Towards a more refined understanding of mental illness stigma across racial, ethnic and cultural divides. Concluding that ethno-racial minority groups are simply more stigmatizing than mainstream community members is probably an oversimplification of the factors underlying the observed disparities in MIS (Rao et al., 2007). The truth is likely more nuanced. Indeed, culturally informed beliefs, norms, values and socialization practices, may play a role in shaping the nature and prevalence of MIS as it is expressed across ethno-racial groups.

For instance, research suggests that certain prejudicial attitudes about PABMI are more prevalent in minority groups, while others are more commonplace in majority samples. Consider the belief that PABMI are dangerous. In a study by Rao, Feinglass and Corrigan (2007), African American participants appraised persons with depression and schizophrenia as more dangerous and endorsed a greater desire for social distance, than did White American respondents. These findings are consistent with a study by Anglin, Link and Phelan (2006), wherein beliefs around dangerousness were more pronounced among African American participants, even after controlling for several socio-demographic variables, like education and religion. In contrast, the belief that PABMI are to blame for their actions appears to be more common in White relative to African American persons. In the same study, Anglin and colleagues (2006) also reported that

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[2] Note, the impact of MIS on help-seeking persisted after controlling for differences in socio-economic status (SES) across ethno-racial groups in all studies that assessed SES as a potential confound (Cruz et al., 2008; Nadeem et al., 2007).

participants who were White were more likely to blame the stigmatized individual for violent acts, and similarly more likely to believe that the individual should be punished for their actions than were African Americans.

Stigmatizing beliefs around the cause of mental illness may also vary across ethno-racial groups. In his study, Knettel (2016) found that European and Sub-Saharan African respondents were more likely to attribute mental illness to substance use problems, than were participants from North Africa and the Middle East. Conversely, participants in the latter two groups were more likely to explain mental illness in terms of supernatural causes (i.e., evil spirits, curses, punishment from God) than persons from North America. Together, findings suggest that ethno-racial groups may endorse different but perhaps similarly stigmatizing stereotypical beliefs about PABMI.

Other research highlights differences in the association that is made between a particular stereotype and the behavioural manifestations of this belief across ethno-racial groups. In a study by Mokkarala and colleagues (2016), White American participants who attributed mental illness to biological factors, were more likely to expect PABMI to be supported in their efforts to seek help, than were those who attributed mental illness to a character flaw. The reverse was noted for South Asian Americans. In this group, respondents believing mental illness was biologically driven were more likely to anticipate PABMI would be discouraged from seeking help, than were those who believed mental illness is reflective of a deficit in character. Researchers discussed findings in terms of cultural values endorsed across groups. Collectivistic ideals, often held by persons identifying as South Asian, maintain among other things that the individual is a reflection of their family (Papadopoulos, Foster, & Caldwell, 2013). Thus, the ill health of a family member (especially if biologically driven) is likely to reflect poorly on the health of the family unit, and thereby carry significant stigma. Conversely, persons identifying as White often adhere to individualistic values that are oriented around the self and personal achievement (Papadopoulos et al., 2013). In this context, an individual whose character is blamed for their illness is likely to be shunned and stigmatized by members of their community.

Research has also shown that a common stereotype may elicit distinct emotional reactions across ethno-racial groups. In an American study, Siegal and colleagues (2012), assessed affective responses towards PABMI among participants who believed that poor character and a lack of willpower are to blame for mental illness. They found that persons identifying as Hispanic, a group that typically adheres to collectivistic ideals including family solidarity and mutual support, responded with compassion, whereas persons identifying as White experienced anger. Researchers further found that these affective responses accounted for over one third of the variance in participants' willingness to support PABMI.

Together, results across the aforementioned studies suggest that MIS is inextricably embedded within its sociocultural context, and underscore the need to examine MIS in relation to the breadth of races and ethnicities that exist across the world and within a given nation. Canada is a country where such a breadth prevails, thus providing a good location for this kind of research. Findings also highlight the importance of expanding our assessment of MIS to a variety of beliefs, affective experiences, and behavioural responses, as these may vary across ethno-racial groups (Anglin et al., 2006; Knettel, 2016; Mokkarala et al., 2016; Siegal et al., 2012).

Mental Illness Stigma Among Persons Identifying as Middle Eastern in North America

Largely overlooked in research examining MIS are persons with ancestry in the Middle East[3] who live in Canada. Individuals identifying as Middle Eastern represent a mere 2% of the Canadian population, with census findings from 2011 counting just over 660 000 members, most of whom reside in Ontario and Quebec (Statistics Canada, 2011). However, the Middle Eastern community in Canada is growing. According to Statistics Canada (2011), between 2006 and 2011 the country's largest influx of immigrants originated from Asia and other parts of the Middle East. More recently, the Canadian government shared plans to welcome more than 600 000 permanent residents to the country by the end of 2017, a majority of whom are from Syria and other Middle Eastern countries (Zinio, 2016).

Persons of Middle Eastern origin living in Canada are subject to a number of stressors that may predispose them to psychological distress. Some are refugees who have recently immigrated to the country. Oftentimes, these are persons leaving their families, friends, and employment to evade war. While research shows that exposure to mass violence alone can increase vulnerability to mental illness (Murthy, 2007), so too can immigration and the frustration and disappointment that often comes with resettlement (Hynie, Korn, & Tao, 2016). Thus, Middle Eastern refugees are at an especially high risk for mental health problems.

Of course, not all Middle Eastern Canadians are refugees. Many come from families who have lived in Canada for several generations. While perhaps no longer impacted by the stress of immigration, members of this group may nonetheless face additional hardships that can heighten

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[3] In keeping with research by Sewilam and colleagues (2015), the present study used the term "Middle East" to refer to a region spanning parts of Western Asia and Northern Africa, whose people have historically shared common value systems and cultural practices. This includes countries like Egypt, Syria, Turkey, Iraq, Lebanon, Kuwait, Oman, Jordan, the United Arab Emirates and the state of Saudi Arabia, among others.

their vulnerability to psychological disorders. As an example, the events of September 2001, the ongoing threat of terrorism, and the recent history of discrimination by leading political figures in the media, have seen members affiliated with this group by virtue of their name, dress, or religious practice, victimized, harassed and violently attacked (Helly, 2004). In fact, recent statistics suggest that hate crimes against Middle Eastern Canadians have more than doubled in the past few years (Paperny, 2016).

Research assessing the mental health of members of the Middle Eastern community in North America confirms that reported levels of psychological distress by persons identifying with this group have both increased over time and surpass that experienced by members of other ethno-racial minority populations. For instance, in a Montreal-based study, Rousseau and colleagues (2011) reported that the psychological wellbeing of Arab Muslims in 2007 had deteriorated relative to surveys conducted a decade prior, a change which was partially attributed to the increase in perceived discrimination towards members of this group post 9-11 (Rousseau, Hassan, Moreau, & Thombs, 2011). In another recent study, Amer and Hovey (2012) reported a higher incidence of anxiety and mood disorders among Middle Eastern Americans, relative to community samples of primarily Caucasian, Asian, Latin, African American, and Native American identification. Researchers commented that these findings were especially noteworthy given the majority of Middle Eastern participants in their sample were American-born and raised, and therefore relatively unaffected by the stress of immigration. As above, researchers instead pointed to the discrimination faced by members of this group, on the basis of their religion or country of origin, in explaining their findings.

Although the reality of mental illness and psychological distress in this population is clear, research assessing MIS among Middle Eastern persons in North America is lacking. In fact, a literature search yielded no peer-reviewed empirical articles examining personal or perceived public MIS among Middle Eastern Canadians, and only two addressing this issue among persons identifying with this ethno-racial group in the United States. Moreover, while these studies represent important contributions to the field, they are not without limitations.

In the first of these studies, Soheilian and Inman (2009) tested the hypothesis that self-stigma mediates the relationship between perceived public stigma and attitudes towards counselling among Middle Eastern Americans. In contrast to other research drawing on a primarily European American sample (Vogel, Wade, & Hackler, 2007), results could not confirm a mediation model, as the association between perceived public stigma and attitudes towards counselling was not significant. In discussing these findings, researchers questioned the suitability of the measure they used to assess perceived public stigma (i.e., the Perceived Devaluation-Discrimination Scale) in adequately capturing respondents' perception of MIS in the context of their ethno-racial community. They recommended minor changes to the measure's item stems that would call respondents' attention to their experience of MIS by members of their ethno-racial community in particular, instead of their perception of MIS in the context of mainstream society. However, these changes have yet to be implemented and tested.

The second study examined stereotypical beliefs about persons with schizophrenia among individuals identifying as Arab from the United Arab Emirates and the United States (Aldhalimi & Sheldon, 2012). Results showed that Arab Americans were more likely than those from the United Arab Emirates to believe that persons with schizophrenia are dangerous, and to attribute their difficulties to an internal flaw or character deficit. Researchers speculated that acculturation to American social norms and individualistic values in the Arab American group were responsible for observed differences. However, other factors may also be at play. For instance, the study compared a group of Arabs from the United Arab Emirates to a group of Arabs, likely originating from several disparate countries, who have immigrated to America. While participants across both groups shared a common ethnicity, it is possible that differences in self-reported MIS observed across groups reflected variations in the cultural norms prevalent in their country of origin, instead of their country of residence (see for instance, Meguid, Rabie, & Basim, 2011, for a study illustrating differences in self-reported MIS between persons from two different Middle Eastern countries). The study would have been strengthened by comparing Arab groups of similar backgrounds in each country, and by the addition of non-Arab comparison samples to further explicate and distinguish the role of Middle Eastern ethnicity in shaping MIS. The study was also limited in the scope of the stereotypes it assessed, and was restricted to the expression of stigma towards a single mental disorder.

Mental illness stigma in the Middle East. In the absence of adequate research examining the expression of MIS by persons of Middle Eastern identification in North America, a brief review of the literature on MIS in the Middle East is provided. It is hoped that this may serve as a reference for some of the stigmatizing beliefs, attitudes, and behaviours that may be pertinent to persons of Middle Eastern ancestry in Canada.

The World Health Organization estimates that one in three people from the Middle East will develop a mental illness at one point in their life (Kessler et al., 2007), and early research supports the idea that these individuals are likely the target of stigma (Sewilam et al., 2015; Yuksel, Bingol, & Oflaz, 2014). Indeed, a number of studies from this region conclude that most participants endorse personal MIS. In Turkey, for instance, over half of subjects interviewed in a study by Taşkin and colleagues indicated that they would not marry or rent property to a person with depression, nor would they accept them as a neighbour, citing worries that the individual may be aggressive (Taşkin, Şen, Özmen, & Aydemir, 2006). In another study, Coker (2005) found that one third of Egyptian participants would not accept a person with depression as a friend, and another half would not accept them in the role of a teacher. The proportion of participants endorsing such attitudes was even greater when they were asked to rate their willingness to interact with a person with a history of psychosis.

Mental illness stigma has also been reported in treatment settings across the Middle East. In a study conducted in Oman, researchers found that medical students believed that PABMI are "peculiar," and have a "stereotypical appearance" (Al-Adawi et al., 2002). They further believed that care facilities providing support for such individuals should be located at a distance from the community. In Jordan, 92 mental health nurses were interviewed about their experience with patients (Hamdam-Mansour & Wardam, 2009). Nearly all participants stated that persons with physical illness are more deserving of attention than those with mental illness. Further, eighty-five per cent of respondents believed that PABMI have no self-control, and over two thirds held that depression occurs among those with a "weak" personality. In Saudi Arabia, hospital staff were asked about their perception of PABMI (Shahrour & Rehmani, 2009). While participants did not blame PABMI for their symptoms, they did endorse moderate levels of fear and avoidance, experiences which were attributed to the belief that affected individuals are dangerous. Similar findings were reported by Meguid, Rabie and Bassim (2011) in their study of non-medical hospital staff in both Egypt and Kuwait. Results from studies examining the experience of PABMI as recipients of MIS converge with these findings. As an example, a qualitative study from Turkey reported that nearly all participants in their sample of outpatients with mental illness described worries about being stigmatized by family, friends, and care providers (Yuksel et al., 2014).

Taken together, these studies indicate that mental illness is common in the Middle East, and that affected individuals are likely met with stigma by members of the public and care providers alike. Further, while other research (Altindag, Yanik, Ucok, Alptekin, & Ozkan, 2006; Holman, 2015) has shown that mental health literacy and contact with PABMI can reduce MIS, research drawing on samples of mental healthcare providers as described above, suggests that these factors do not suffice in eliminating MIS in the Middle Eastern context.

Finally, it appears that the association between MIS and reduced help-seeking that has been identified in other nations and cultures is maintained in this ethno-racial group. As an illustration, in a study in the United Arab Emirates, Salem, Saleh, Yousef and Sabri (2009), reported that outpatients in their sample initially sought relief from faith healers, herbal treatments and prayer, before agreeing to psychiatric care. Fears of stigmatization by family, friends, and members of the public were cited as the main cause. In another study in the same country, Eapen and Ghubash (2004) found that only 38% of parents would engage the support of a mental health professional if their child showed signs of mental illness. MIS was again identified as a deterrent to seeking professional support, alongside parents' uncertainty about whether the treatment would be helpful. Yuksel and colleagues (2014) similarly reported that MIS acted as a barrier to treatment in their sample of persons with mental health concerns in Turkey.

A Culturally Adapted Social-Cognitive Model of Mental Illness Stigma

To better understand MIS in the Middle Eastern Canadian context, the current study drew on a model that conceptualizes MIS in terms of its cognitive, affective, and behavioural components. This framework, initially proposed by Corrigan (2000), was recently adapted to account for the role of cultural beliefs, norms, and values in shaping the expression of MIS across ethno-racial divides (Abdullah & Brown, 2011). According to the model, the process begins when one observes a cue that signals that the person before us belongs to the target group. If the target group consists of PABMI, the cue may be witnessing an individual talk to themselves, or learning that a co-worker is in therapy (Corrigan, 2000). Abdullah and Brown (2011) posit that these cues are culturally informed. In the western world, for instance, disturbances in cognition, emotion, and behaviour may constitute symptoms of a mental disorder, only insofar as they reflect a significant deviation from sociocultural norms (American Psychiatric Association, 2013). Therefore, while a person's report of contact with the supernatural may be understood as a symptom of psychosis in one culture, this experience may be normative and even desirable in another.

Next, a series of stereotypes are elicited in response to the cue. Stereotypes are ideas or images which we have learnt to associate with others on the basis of their membership with a particular group. Stereotypes are akin to mental short-hands, distilling often complex and disparate pieces of information about the target group and its members into a single (and usually simple) idea. Although there is sometimes merit in being able to draw on our stereotypes to quickly assess and react to novel situations (consider the value, for instance, of the stereotype "tigers are vicious" when encountering a tiger in the wild), these ideas are typically based on overgeneralizations or misrepresentations of the target group, and lead to inappropriate responses. As an illustration, if an individual has an image of PABMI as dangerous, they might instinctively avoid taking a seat on a bus next to a person who appears to be hearing voices, even though research suggests that PABMI are no more violent than non-affected community members (Steadman et al., 1998). As before, culture is likely to affect which stereotypes are most poignant in a given community (Abdullah & Brown, 2011). For instance, individuals belonging to cultures that value self-control may be more likely to have heard the stereotype that all PABMI are lazy or weak.

While stereotypes may influence our subconscious expectations of PABMI, they do not suffice in creating stigma. For instance, even if one is aware of the stereotype that PABMI are dangerous, they may not personally believe it to be an accurate reflection of all members of this group. In this case, the stereotype is like a myth that has little effect on our experience or behaviour. Instead, MIS necessitates agreement with our stereotypes. When stereotypes are maintained as true, they lead to negative attitudes and affective reactions towards the target group, an experience commonly known as prejudice (Corrigan, 2000). As an example, persons who agree with the stereotype that "PABMI are dangerous," may be more likely to feel apprehensive, threatened or angry, in their company. Abdullah and Brown (2011) suggest that culturally informed attitudes and socialization practices influence whether a particular stereotypical belief is accepted as accurate. Specifically, the stereotypes we hold are more likely to result in prejudice, when they are repeatedly reinforced by societal messages conveyed through media or social discourse.

Finally, discrimination is the behavioural manifestation of prejudice (Abdullah & Brown, 2011). It occurs when the target individual is treated differently because of their membership with the stigmatized group. In the case of mental illness, discrimination is sometimes expressed directly, through antagonistic remarks or actions. However, less direct forms of discrimination are also recognized. The failure of government, organizations or institutions to provide equitable housing and employment opportunities, as well as social exclusion by friends, family, co-workers and acquaintances, are but a few examples (Hinshaw & Chicchetti, 2000; Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999). According to Abdullah and Brown (2011), cultural norms are likely to determine which (if any) forms of discrimination are prohibited and which are more acceptable. For instance, members of some community groups may avoid expressing hostility towards PABMI directly, but may gossip about them instead if it is socially appropriate and commonplace among those who share their ethnic or racial background. Additionally, Link and Phelan (2001) highlight that discrimination requires a disparity in social power wherein the target group is at a disadvantage relative to those who perpetrate stigma. The existence and extent of this disparity are also culturally informed.

Current Study

To review, the extant literature suggests that MIS impacts PABMI worldwide, permeating boundaries defined by ethnicity, race, and nationality (Rose et al., 2011). Its consequences are many. Noteworthy among them is the role MIS plays in deterring affected individuals from seeking care (Jennings et al., 2015). Unfortunately, without treatment, there is a risk that the mental health of affected persons will deteriorate further, or that their recovery will be delayed (Zäske, 2017). Research also suggests that MIS is more prevalent among ethno-racial minority groups in North America, than it is among majority samples (Loya et al., 2010; Wang et al., 2013), perhaps accounting for their underrepresentation in treatment settings (Brown et al., 2010; Conner, Koeske, & Brown, 2009; Cruz, Pincus, Harman, Reynolds, & Post, 2008; Loya et al., 2010). However, this idea has recently been contested, with a handful of studies pointing to variations in the nature of stereotypes, prejudice and discrimination expressed as more pertinent in understanding between group differences than prevalence rates alone (Anglin et al., 2006; Knettel, 2016; Mokkarala et al., 2016; Siegal et al., 2012). Evidently, further research is needed to explicate the role of race, ethnicity, and culture in shaping MIS.

Limitations to the extant literature on mental illness stigma across ethno-racial groups. Several gaps in the literature are noted. First, the expression of MIS among persons of Middle Eastern identification in North America has not been adequately investigated. A literature search yielded only two studies exploring MIS among Middle Eastern Americans, and none addressing personal and perceived public MIS among persons identifying with this group in Canada. Thus, while research has confirmed that MIS is expressed by individuals in the Middle East (Eapen & Ghubash, 2004; Salem et al., 2009; Yuksel et al., 2014), additional study is needed to determine whether these beliefs, attitudes, and behaviours persist among Middle Eastern persons who reside in Canada, and whether they exert a similar effect on treatment-seeking attitudes and behaviours among members of this group.

Second, while the expression of MIS has been found to differ in White versus non-White communities (see for instance, Wang et al., 2013), few researchers have examined whether the nature and prevalence of MIS may also vary across ethno-racial minority groups in North America (Abdullah & Brown, 2011). In so doing, meaningful differences are likely to be missed and similarities overlooked. Examination of MIS in a Middle Eastern Canadian sample, relative to other ethno-racial minority groups, is likely to improve our understanding of the ways in which MIS may be uniquely or similarly expressed in this population. This information will be instrumental in the development of anti-stigma initiatives that are well suited to Middle Eastern communities, and to multicultural audiences in general. This is of particular importance in Canada, a country that boasts some of the most racially and ethnically diverse cities in the world (Roth, 2014).

Third, few researchers comparing MIS across race or ethnicity have assessed participants' degree of ethno-racial identification, that is to say, the extent to which they adhere to the norms, values, and ideologies that are typical of others in their ethno-racial community (see for instance, Rao et al., 2007). In multicultural societies, some degree of heterogeneity in ethno-racial identification among members of a group is expected. Within a Middle Eastern Canadian sample, for instance, some members' beliefs are likely to have drifted from what is considered "typically Middle Eastern" since having left their home country or through their interactions with persons who identify with another race or culture (Ryder, Alden, & Paulhus, 2000). Hence, when conducting research across ethno-racial groups in a multicultural context, it does not suffice to consider ethno-racial group membership alone. It is equally important to gauge the extent to which a particular ethno-racial sample is truly representative of the population under examination.

Fourth, most studies limit their assessment of MIS to specific stereotypes and discriminatory behaviours. Indeed, social distance and beliefs about the dangerousness of PABMI appear to be the most commonly measured proxies of MIS. When the scope of study is broadened to include several ethno-racial groups, the breadth of stereotypes, prejudicial attitudes, and discriminatory behaviours under examination should also be expanded. This is necessary as it is unclear whether typical proxies for MIS, like social distance and beliefs about danger, are equally pertinent to all ethno-racial groups, and in this case, to Middle Eastern persons in particular. While such an endeavour may be partially achieved through the careful selection of existing quantitative measures, qualitative inquiry may also be needed to identify new constructs of interest.

Finally, besides ethnic and racial identification, there are a number of additional variables known to influence self-reported MIS. Level of familiarity with mental illness is one such variable. Specifically, studies have found that increased contact with PABMI is associated with reduced MIS (Altindag, Yanik, Ucok, Alptekin, & Ozkan, 2006). Capitalizing on this finding, many anti-stigma initiatives include exposure to an individual affected by mental illness so that members of the audience can learn about their lived experience, and perhaps challenge any preconceived notions they have about what it means to be a PABMI (Hartman et al., 2013). Another variable known to affect self-reported MIS is a socially desirable response style. The social science literature is flooded with results demonstrating that research participants tend to respond in a manner that they expect will be positively regarded by others (Perinelli & Gremigni, 2016). Given MIS is generally discouraged in mainstream Western society, study respondents are likely to underreport stigmatizing views and attitudes about PABMI. This is supported by research demonstrating an inverse relationship between a socially desirable response bias and self-reported MIS (Henderson, Evans-Lacko, Flach, & Thornicroft, 2012). While studies have repeatedly demonstrated the impact of level of familiarity with mental illness and social desirability on self-reported MIS (Altindag et al., 2006; Henderson et al., 2012) rarely have these constructs been considered in studies comparing MIS across ethno-racial groups. This is especially problematic given the possibility that these variables may differ systematically across ethnic or racially-based samples.

In an effort to address these gaps in the literature, the current study aimed to achieve the following goals. First, to confirm the existence and assess the impact of perceived public MIS in Middle Eastern relative to White, Black, and South Asian Canadian communities. Second, to explore the nature of MIS as it is expressed in the Middle Eastern Canadian context, relative to other ethno-racial groups. Each of these goals is further elaborated below.

Impact of mental illness stigma. The current study sought to determine the degree to which Middle Eastern participants would identify MIS within their ethno-racial community as a barrier to seeking treatment. In keeping with this objective, the following hypothesis was tested.

Hypothesis 1. Consistent with earlier research suggesting ethno-racial minority groups endorse higher levels of MIS than persons identifying as White (Angermeyer et al., 2004; Rao et al., 2007; Weiss et al., 2001), Middle Eastern Canadians were expected to report higher levels of perceived public MIS as a barrier to help-seeking, relative to persons identifying as White European and White Canadian, but similar levels of perceived public MIS as persons identifying with other ethno-racial minority groups, specifically, Black and South Asian Canadians. This effect was expected to remain after controlling for social desirability biases in responding and level of familiarity with mental illness.

Nature of mental illness stigma. The current research also aimed to characterize the nature of MIS as it is expressed among Middle Eastern Canadians relative to other ethno-racial groups. To do so, a concurrent triangulation mixed-method approach was employed (QUAN, qual; Hanson, Creswell, Clark, Petska, & Creswell, 2005). A quantitative analysis of the data from self-report measures allowed for an objective comparison of previously established constructs relevant to the expression of MIS across samples. However, given it is unclear whether these measures capture the complexity of beliefs, attitudes, and behaviours expressed across Middle Eastern and other ethno-racial minority groups, the quantitative analysis was supplemented by a qualitative inquiry. Allowing participants to describe their perception of MIS in their community through open-ended questions obviated misrepresentations of their experience that may result from imposing a response structure through quantitative measures developed from primarily Caucasian samples and without consideration of cultural diversity (Alvidrez et al., 2008).

The mixed method approach adopted in the present study served four main functions, as outlined by Greene, Caracelli and Graham (1989). First, it allowed for an examination of the degree to which emergent themes and categories regarding the nature of MIS uncovered during the qualitative analysis converged, or triangulated, with quantitative findings. When triangulation is observed between methods, the interpretation of findings can be made with increased confidence, as errors resulting from weaknesses in the measures are minimized (Denzin, 1978; Johnson, Onwuegbuzie, & Turner, 2007). Second, when there is convergence across methods, qualitative data can be used to complement quantitative findings, by clarifying results, providing illustration, and highlighting nuances in the expression of MIS that may not have otherwise been apparent. Third, inconsistencies or contradictions observed across methods can be used to re-evaluate one's approach to conceptualizing MIS across ethno-racial groups. Finally, adopting a mixed method approach can more broadly expand the breadth of our knowledge on MIS across ethnic and racially-defined populations, and among persons identifying as Middle Eastern in particular (Greene et al., 1989; Hanson et al., 2005).

In keeping with a mixed method approach, the current study endeavoured to characterize the nature of MIS as it is expressed among Middle Eastern Canadians in two ways. First, various forms of prejudicial attitudes and discrimination were quantitatively assessed using self-report measures developed primarily from Western conceptualizations of MIS. The corresponding study hypotheses were as follows:

Hypothesis 2. Middle Eastern persons will endorse greater MIS towards PABMI than persons identifying as White European and White Canadian *only* on those measures that assess beliefs, values, and social practices that are especially pertinent to persons of Middle Eastern ancestry. For instance, given their socio-political history, concerns about danger perpetrated by members of an out-group are likely especially pertinent in Middle Eastern countries. As an illustration of this phenomenon as it applies to PABMI, a qualitative study by Coker (2005) found that Egyptian participants often reported the belief that PABMI have the potential to cause harm through aggression or by spreading their illness to non-affected persons through close contact or modeling of negative attributes to impressionable others. As a result, most participants reported avoiding close interactions with PABMI to mitigate the chance of "social contagion" (Coker, 2005, p. 926). Family and social role obligations are also valued by persons identifying as Middle Eastern. If PABMI are perceived as unable to fulfill societal or family role obligations, this may lead to further social rejection and exclusion, a finding that was also supported by Coker's research (2005). Middle Eastern countries also value collectivistic ideals (Amer & Awad, 2016) wherein interpersonal needs and a shared group identity take precedence over the self. Thus, members of this group may be especially vigilant of the impact of mental illness on relationship cohesion.

In keeping with this literature, the Middle Eastern group was expected to endorse greater MIS than participants identifying as White European and White Canadian on only three measures, namely, the MISS-Anxiety subscale, the MISS-Relationship Disruption subscale, and the Social Distance Scale. In contrast, Middle Eastern participants were expected to endorse comparable levels of MIS to persons identifying with the other ethno-racial groups along all scales. As before, it was hypothesized that these effects would be maintained after controlling for social desirability biases in responding and level of familiarity with mental illness.

Hypothesis 3. The effect described in Hypothesis 2 will be moderated by the degree to which participants identify with their primary ethno-racial group. Specifically, greater identification with the Middle Eastern group was expected to be associated with greater expressed MIS, whereas greater affiliation with the White Canadian and White European group was expected to be associated with reduced MIS. This hypothesis draws on previous literature demonstrating a positive association between MIS and adherence to ethno-racial minority group values (Mivelle & Constantine, 2007; Shea & Yeh, 2008).

The current study also aimed to characterize the nature of MIS using a qualitative approach, given subtleties in the experience of MIS in the Middle Eastern Canadian context relative to other ethno-racial groups may not be adequately captured using the available quantitative measures. To this end, participants were asked about their perception of MIS in their ethno-racial community using two open-ended questions. Responses to these questions were examined using content analysis (Krippendorff, 2004). This allowed for a more complete and nuanced perspective of the ways in which MIS is conceptualized across ethno-racial groups, in effect expanding our understanding of the many facets of MIS as it is currently known.

Method

Ethics

The present study conforms to the standards outlined in the Canadian Tri-Council research ethics guidelines. It was also reviewed and granted ethics approval by the Human Participants Review Sub-Committee of the Office of Research Ethics at York University.

Sampling Procedure

Participants were recruited through York University's Undergraduate Research Participant Pool (URPP), an online system that provides introductory psychology students with course credit for study participation. Students register for the URPP and complete a pre-screening questionnaire which allows researchers to identify students appropriate for their particular study. For the current project, only those students having self-identified as White, Black, South Asian, or Middle Eastern in the pre-screen questionnaire were granted access to the study[4]. Approximately 120 study slots were assigned to each ethno-racial group, to allow for a comparable number of participants across groups.

Four hundred and seventy-seven students registered for the study. The study was administered online through the Survey Monkey platform, so participants had the option to complete the study at a location of their choosing. Participants were advised that it would take approximately one hour to complete the study and were granted course credit for their participation (roughly 0.67% of their final course mark).

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[4] There were minor variations in the specific terminology used to identify each group across academic terms. For instance, participants were asked whether they identify with "White (Eastern European, North American, etc.)" race or culture in the winter term, while they were asked if they identify with "European/White" race or culture in the spring term.

Eligibility and Exclusion Criteria

All participants who confirmed their primary ethno-racial group as either White, Black, South Asian, or Middle Eastern were eligible for the study. Exclusion criteria were two-fold, namely, a) participants who dropped out of the study prematurely, and b) participants having completed the study in less than 18 minutes. The latter exclusion criterion was included to mitigate the effect of inaccurate data provided by students who responded to the study in an indiscriminate fashion. Given the study was administered online, there was no way to monitor whether participants were adequately attending to each task. Participants may have elected to respond to study items quickly and in a manner that does not accurately reflect their true opinion about PABMI. Thus, the distribution of study response times was examined, and participants who responded within the lowest 5% (i.e., the 5% most rapid respondents) were eliminated from the analyses.

Recruitment and Participant Flow

A total of 477 participants were enrolled in the study between January and September of 2016. Of these, 22 did not identify with one of the four ethno-racial groups under investigation, and another 7 dropped out or withdrew their consent to participate in the study. The mean study completion time among the remaining respondents was 88.78 minutes (range: 9-4310 minutes[5]), and the bottom fifth percentile of respondents completed the study in 17 minutes or less (*n* = 24). After considering the aforementioned exclusion criteria, data from 424 participants were entered into the analyses.

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[5] There were no time constraints placed on participants' completion of the questionnaire. While 88% of participants completed the study in 90 minutes or less, 2.4% took in excess of 6 hours finish the questionnaire. Of these, 0.5% took more than 24 hours to complete the study.

Measures and Covariates

Demographics. Participants completed four sets of questionnaires. The first consisted of a series of socio-demographic questions. Specifically, participants were asked to identify their sex, age, highest level of education, their religious or wisdom tradition, the language they speak with friends and family, their country of birth, and if applicable, the age at which they moved to North America. Each participant was also asked to identify the ethno-racial group with which they most closely identify from the following options: White European, White North American, Black African, Black North American, Black Caribbean, South Asian, and Middle Eastern. Participants who did not identify with any of these groups were given the option to select an "other ethno-racial group" option.

Participants were also asked about their parents' country of birth, and where applicable, the age at which their parents moved to North America. The questionnaire also inquired as to whether any of the participants' grandparents were born in North America, and if so, how many.

Primary outcome measures. Participants completed a second set of questionnaires designed to assess perceived public MIS and personal MIS, in the form of prejudicial attitudes and discrimination towards PABMI.

Perceived Stigma subscale of the Perceived Stigma and Barriers to Care for Psychological Problems scale (Britt, 2000; Britt et al., 2008; Hoge et al., 2004). Given concerns noted by others (Soheilian & Inman, 2009) when using the Perceived Devaluation-Discrimination Scale with Middle Eastern Americans, perceived public stigma was assessed using a measure borrowed from research examining MIS in the context of military veterans, that was adapted for use across ethno-racial groups. The Perceived Stigma subscale of the Perceived Stigma and Barriers to Care for Psychological Problems (PSBCPP) scale uses 6 items to assess a person's concerns about being stigmatized by their peers for seeking mental health treatment (e.g., "My peers might treat me differently.") Items are rated on a 5-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). A mean score is tabulated for the subscale, with higher scores reflective of MIS that is perceived as a greater hindrance to treatment seeking. Previous research suggests that the reliability of this subscale is good (i.e., $\alpha >$ .80; Britt et al., 2008; Pedersen & Paves, 2014).

In keeping with recommendations put forth by Soheilian and Inman (2009), items were slightly reworded to assess participants' expectation of MIS in the context of their ethno-racial community, instead of in the context of their peer group. Specifically, the term "peers" from the original measure was replaced by the phrase "people in my ethno-racial group" (e.g., "People in my ethno-racial group would treat me differently.") In this way, the measure was more likely to capture respondents' perception of MIS within their ethno-racial group, as opposed to their impression of MIS in mainstream society more generally. Studies making similar adjustments to the item stems of this scale have reported good reliability (i.e., $\alpha > .80$; Blais & Renshaw, 2013; Pedersen et al., 2014). In the current study, Cronbach's alpha for the Perceived Stigma subscale of the PSBCPP scale was excellent ($\alpha = .94$). To the author's knowledge, the cross-cultural validity of the PSBCPP has not been examined. Further, although the measure has been employed outside North America (see for instance, Jones, Keeling, Thandi, & Greenberg, 2015), its use remains confined to Western culture. The present study appears to be the first to examine scores along this measure in relation to ethno-racial group membership. See Appendix A for a copy of the adapted version of the Perceived Stigma subscale, as it was used in this study.

Mental Illness Stigma Scale (Day, Edgren & Eshleman, 2007; MISS). A measure demonstrates good content validity when it captures an adequate representation of all facets of a given construct, such as MIS. It was crucial in this study to include a measure of MIS with a high degree of content validity, so as to determine whether certain facets of MIS may be differentially endorsed across ethno-racial groups. Day and colleagues' (2007) 28-item MISS was identified as a suitable measure as it contains several subscales assessing various facets of prejudice towards PABMI. The measure draws on Jones and colleagues' (1984) stigma theory which proposes that all types of stigma can be understood in terms of six relatively unique facets, namely, concealability, course, disruptiveness, aesthetic quality, origin and peril. Day and colleagues' (2007) MISS subscales map loosely onto these constructs, although their research[6] identified seven instead of six dimensions and did not identify a dimension reflecting prejudicial attitudes about the origin of mental illness. Each of the MISS subscales is described below.

The 7-item Anxiety subscale captures feelings of apprehension or worries about being in danger when in the company of PABMI (e.g., "When around someone with a mental illness, I worry that he or she may harm me physically.") The 6-item Relationship Disruption subscale targets beliefs about the adverse impact of mental illness on relationships (e.g. "A close relationship with someone with a mental illness would be like living on an emotional roller coaster.") The 4-item Hygiene subscale assesses stereotypes a person may endorse about whether PABMI adequately attend to their hygiene (e.g., "People with mental illness do not groom themselves properly.") The 4-item Visibility subscale reflects beliefs that PABMI can be identified by the way they look or behave (e.g., "I can tell that someone has a mental illness by the way he or she talks.")

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[6] Day and colleagues (2007) completed a factor analysis using a Promax rotation to identify the seven dimensions of MIS described in their study. Promax rotations deliberately allow for the factors to be inter-correlated and possibly connected due to an underlying latent variable, which in this case could be a general MIS factor.

The MISS also includes three subscales pertinent to respondents' beliefs about the course of mental illness, namely, the Treatability, Professional Efficacy and Recovery subscales. The 3-item Treatability subscale targets beliefs about the efficacy of pharmacological treatments. It includes items like "There are effective medications for mental illnesses that allow people to return to normal and productive lives." In a similar vein, the 2-item Professional Efficacy subscale examines whether respondents believe that mental health professionals can deliver effective care (e.g., "Mental health professionals, such as psychiatrists and psychologists, can provide effective treatments for mental illnesses.") Finally, the 2-item Recovery subscale assesses respondents' beliefs about the permanence of mental illness, with items including "Once someone develops a mental illness, he or she will never be able to recover from it" (item reverse-scored).

All items are rated on a 7-point Likert-type scale, ranging from 1 (completely disagree) to 7 (completely agree), and mean scores are computed for each subscale. In the original measure, endorsement of prejudicial attitudes was associated with higher scores on the Anxiety, Relationship Disruption, Hygiene, and Visibility subscales, and lower scores on the Treatability, Professional Efficacy and Recovery subscales. However, in the current study, the latter three subscales were reverse scored so that higher scores across all subscales consistently signalled greater MIS.

Research suggests that the psychometric properties of most of the MISS subscales are acceptable, with $\alpha > .70$ (Day et al., 2007; Masuda et al., 2009). However, one study reported poor internal consistency for the Visibility and Treatability subscales ($\alpha = 0.68$ and $\alpha = 0.64$ respectively; Stone & Merlo, 2011). In the current study, the psychometric properties were acceptable (i.e., $\alpha > .70$) for all but the Treatability subscale ($\alpha_{\text{Anxiety}} = .93$; $\alpha_{\text{Relationship Disruption}} = .89$;

$\alpha_{\text{Hygiene}} = .90$; $\alpha_{\text{Visibility}} = .78$; $\alpha_{\text{Professional Efficacy}} = .81$; $\alpha_{\text{Recovery}} = .84$; and $\alpha_{\text{Treatability}} = .66$). To the author's knowledge, the MISS has not been empirically examined across groups defined by race or ethnicity. It has recently, however, been used in a study which included both African and European American participants (Hunter, 2016).

Note, a total MISS score has not traditionally been computed (see for instance Day et al., 2007; Hunter, 2016; Masuda et al., 2009; Stone & Merlo, 2011). However, given the strength of the correlations reported in Table 1, the MISS subscales are likely to covary, perhaps due to a shared relationship with an underlying latent factor such as MIS. In keeping with this possibility, a total MISS score was created by computing the sum of scores across six of the seven subscales. Items related to the Professional Efficacy subscale were omitted given they demonstrated a weak association with most of the other subscales. Cronbach's alpha for the MISS total score was 0.94. The reader is referred to Table 1 for a correlation matrix including the MISS subscale scores and total score, and to Appendix B for a copy of the full scale.

Social Distance Scale (Link et al., 1999; SDS). The SDS was used as a proxy for behavioural manifestations of MIS (i.e., discrimination). In the original measure, respondents were asked to read a vignette describing a person who may be the target of stigma. They were then asked to rate their willingness to interact with the person described in the vignette in a variety of ways, including moving next door to the person, socializing with the person, and working with the person. In keeping with other research (Livingston, Tugwell, Korf-Uzan, Cianfrone, & Coniglio, 2013; Penn, Chamberlin, & Mueser, 2003), the current study omitted the vignette, and simply asked whether respondents would be willing to interact with "Jordan, a person with a serious mental illness."

The five SDS items are rated on a 5-point Likert-type scale, ranging from 1 (definitely not) to 5 (definitely). Items are reverse scored, such that higher scores are indicative of a greater propensity to engage in discriminatory behaviours towards PABMI. The total SDS score is the mean of the item scores. Previous research suggests that this measure has good psychometric properties (i.e., $\alpha > .80$; Cheon & Chiao, 2012; Livingston et al., 2013). Cronbach's alpha in the current study was excellent ($\alpha = .90$). To the author's knowledge, the validity of this measure has not been assessed across ethnic or racial groups, although it has been examined in non-Western samples (Baruch, Kanter, Pirutinsky, Murphy, & Rosmain, 2014; Cheon & Chiao, 2012). This measure can be found in Appendix C.

Covariates. Participants completed three additional scales as part of a third set of questionnaires. The first two examined constructs associated with reduced self-reported MIS ratings, namely, a socially desirable response bias and familiarity with mental illness (Feeg, Prager, Moylan, Smith, & Cullinan, 2014; Henderson et al., 2012). The third measure assessed participants' degree of identification with the values, traditions, and social practices of their primary ethno-racial group.

Cultural adaptation of the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960; He et al., 2015). The expression of MIS is generally discouraged in mainstream Canadian society, and perhaps even more so among undergraduate psychology students. As such, participants were expected to underreport any stigmatizing opinions they may hold about PABMI (Henderson et al., 2012). To account for the effect of a socially desirable response style on self-reported MIS, a culturally-adapted version of the Marlowe-Crowne Social Desirability Scale (He et al., 2015) was included in the survey.

The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) is a 33-item true or false questionnaire that assesses respondents' tendency to self-endorse desirable, yet improbable, attributes (e.g., "I am *always* willing to admit when I make a mistake.") The measure also assesses respondents' propensity to deny less desirable traits that are true of most people at some point in their life (e.g., "I sometimes try to get even, rather than forgive and forget.") Persons scoring high on this measure are likely to exaggerate socially sanctioned attitudes, and conversely, to mask beliefs shunned by the public. Said differently, high scores on this measure are typical of individuals who tend to misrepresent their true opinions in the interest of responding in a manner that will be favoured by others.

Although the Marlowe-Crowne Social Desirability Scale and its many abbreviations (see for instance Ballard, 1992) have been used in thousands of studies over the past several decades, the measure's psychometric properties and factor structure have been challenged. For instance, many researchers have presented evidence suggesting the scale's internal consistency is poor (Loo & Thorpe, 2000, $\alpha = .61$; Hartman et al., 2013, $\alpha = .63$), with some attributing such findings to the measure's dichotomous response format (Zhao et al., 2015). Others have argued that the scale's items do not all load onto a single factor (see Ballard, 1992). Rather, some researchers have stated that a two-factor structure, reflecting on the one hand, a person's tendency to endorse positive traits (termed "Enhancement"), and on the other hand, an individual's propensity to deny negative ones (termed "Denial"), is a better fit for the data (Loo & Loewen, 2004). This dual factor structure has been confirmed across 19 countries, and the "Denial" and "Enhancement" dimensions have been differentially tied to a number of cultural and personality variables (He et al., 2015).

For these reasons, the current study employed a version of the Marlowe-Crowne Social Desirability Scale (He et al., 2015), that has been adapted for use across ethno-racial groups and modified to address the aforementioned psychometric limitations. In developing the adapted measure, He and colleagues (2015) drew upon the original Marlowe-Crowne scale, but omitted items that were ambiguous and those that were not meaningful across ethno-racial groups. This yielded an abbreviated 13-item scale. Minor revisions to the item stems were made to simplify use across racial and ethnic divides and to facilitate translation. The researchers also endeavoured to improve the psychometric properties of the measure by using a five-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree), instead of the traditional true or false response options. Two subscales were also defined, representing both the Enhancement and Denial factors. Subscale scores were computed by taking the mean of the item scores, with greater scores indicative of a higher propensity to present oneself in a positive light, by either exaggerating positive attributes or by denying negative ones. He and colleagues (2015) reported $\alpha_{\text{Enhancement}}$ =.62, and α_{Denial} = .54. In the current study, Cronbach's alpha for the Enhancement and Denial subscales equalled .86 and .57 respectively. The full measure is provided in Appendix D.

Vancouver Index of Acculturation (VIA; Ryder, Alden, & Paulhus, 2000). While a person may identify as primarily Middle Eastern, for instance, it is possible that they do not adhere to all the beliefs, values, and norms that are typical of others who share their ethnic identification. In the absence of having access to a "pure" Middle Eastern, South Asian, Black and White sample (i.e., one in which all participants completely and uniquely identify with their primary ethno-racial group), it was necessary to estimate the extent to which each participant's views were representative of others in their community. To this end, participants were asked to complete the Vancouver Index of Acculturation (VIA).

The VIA is a 20-item measure that traditionally generates two distinct subscale scores. The first of these reflects self-reported acculturation to mainstream culture, termed the 'Mainstream' subscale. The second reflects self-reported identification with one's heritage culture, termed the 'Heritage' subscale. Sample items include "I believe in the values of mainstream culture" and "I often behave in ways that are typical of my heritage group." Each subscale is comprised of 10-items, rated on a 9-point Likert-type scale, ranging from 1 (strongly disagree) to 9 (strongly agree). A mean score is computed for each subscale wherein higher scores indicate greater affiliation with the selected cultural group. Previous research has confirmed that the VIA has good psychometric properties ($\alpha > .80$; Ryder et al., 2000; Shamblaw, Botha, & Dozois, 2015), and the internal consistency in the current study was excellent across both subscales ($\alpha > .90$).

In keeping with the main function of this measure in the present study (i.e., to assess participants' affiliation with their primary ethno-racial group), only one subscale was considered in the analyses, namely, that which corresponded to each participants' primary ethno-racial group. For participants identifying with a non-North American group (i.e., White European, Black Caribbean, Black African, South Asian, or Middle Eastern), the Heritage subscale score served as a measure of respondent's ethno-racial group identification[7]. Conversely, the Mainstream subscale score was used for those identifying as primarily Black or White North American[8]. From this point forward, the acronym 'VIA' will be used to refer to the subscale of

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[7] For these participants, the term "heritage culture" was replaced with "ethno-racial group" in the VIA Heritage subscale to maintain consistency in the language used across the study.

[8] While it may have been interesting to examine the relationship between MIS and both heritage identification and mainstream acculturation, this was not possible given nearly 30% of all North American participants noted their heritage culture and mainstream culture were one in the same. As a result, only one of the two subscales was completed by these participants.

the VIA associated with each participant's primary ethno-racial group. Table 2 lists the mean Heritage and Mainstream subscale scores for each group, as well as the Pearson product-moment correlations between these scales. Complete subscales can be found in Appendices E, F, and G.

Level of contact report (Corrigan et al., 2005; Holmes, Corrigan, Williams, Canar, & Kubiak, 1999; LOCR). To gauge familiarity with mental illness, participants were administered a version of the LOCR (Holmes et al., 1999), adapted for use with adolescents by Corrigan and colleagues (2005), and later used by many others (Ogg, McMahan, Dedrick, & Mendez, 2013; Stewart, Steele, & Roberts, 2014). This 8-item Guttman-like scale provides respondents with a list of situations in which they may have encountered PABMI. Situations are ranked in order of increasingly intimate interactions. For example, the item "I have watched a television show that included a person with mental illness" is ranked below the item "I live with a person who has a serious mental illness" as the latter reflects greater familiarity with mental illness. For each item, respondents select "true" or "false" to indicate whether or not they have been in contact with PABMI in the situations described. Respondents are assigned a single rank order score, which reflects the most intimate interaction they have had with PABMI. Scores vary from 0 (least intimate, e.g., "I have never observed a person with mental illness") to 7 (most intimate, e.g., "I have a mental illness, or have had one at some point in my life.") See Appendix H for the full measure.

Qualitative Data

Finally, participants were invited to respond to two open-ended questions to explore perceived public MIS across ethno-racial groups.

Question #1. Participants were first asked to identify up to ten adjectives or short phrases that they believe *others* in their ethno-racial community would use to describe PABMI. This question was adapted from a stereotype measure developed by Esses, Haddock, and Zanna (1993) that explores beliefs about PABMI. Traditionally, this measure asks participants to list up to ten characteristics they personally associate with the target group, to rate the valence of each characteristic on a 5-point scale, and to estimate the proportion of persons in the target group whom they believe possess the character trait. This process allows for the calculation of a stereotype score.

In the current study, two modifications were applied to Esses and colleagues' (1993) original measure. First, participants were asked to identify up to ten adjectives or short phrases that they believe *others in their ethno-racial community* would use to describe PABMI. This change served a dual purpose, namely, to identify beliefs held by members of a particular ethno-racial group even though they may not be shared by the participant, and to reduce the impact of social desirability on participants' responses. The latter assumes that participants would be more likely to mask stigmatizing attitudes they personally hold, than to mask stigmatizing attitudes held by those in their community. In terms of the second modification, the current study also omitted the stereotype score as has been done by others (Bell, Esses, & Maio, 1996), This change was applied given the author's main intent was to examine the meaning of the phrases or words provided by participants, and to analyze these in a qualitative fashion.

Question # 2: At the end of the survey, all participants were also asked whether they believe that PABMI are stigmatized in their ethno-racial community. The distribution of responses by ethno-racial group is summarized in Table 3 and illustrated in Figure 1. Participants who answered "yes," were then asked "How is stigma expressed in your ethno-racial community?" The latter question was optional, and there was no character limit placed on participants' response if they chose to provide an answer.

Sequence of Measures Administered

The measures described above were administered in the following order:

1. Demographic questionnaire.
2. Vancouver Index of Acculturation.
3. Level of Contact Report.
4. Open-ended question # 1.
5. Mental Illness Stigma Scale.
6. Social Distance Scale.
7. Perceived Stigma subscale of the Perceived Stigma and Barriers to Care for Psychological Problems scale.
8. Social Desirability Scale.
9. Open-ended question # 2.

At the close of the survey, participants were presented with a debriefing statement that summarized the main purpose of the study and described how their responses would be used.

Data Analyses

Missing Data. Examination of the data revealed that twenty-two item scores were missing across 20 participants (i.e., 0.07 % of the item responses across the entire data set, and among 4.7% of sample participants). The maximum number of incomplete items per participant was two, and none of the participants were unresponsive to more than one item from any given subscale or measure. Data were assumed to be missing at random as there was no evidence of a pattern across missing data. Given the relatively small proportion of incomplete item responses, as well as the absence of evidence suggesting any biases in these, list-wise deletion was deemed the most suitable approach to addressing the missing data and was employed within each of the analyses described below.

Hierarchical regressions. To address the study goals, hierarchical linear regressions were performed for each of the ten stigma dependent variables, namely, the Perceived Stigma subscale of the PSBCPP scale, the SDS, as well as the MISS Total score and the MISS Anxiety, Relationship Disruption, Hygiene, Visibility, Treatability, Professional Efficacy and Recovery subscales. In all cases, the Denial and Enhancement subscale scores of the culturally adapted Social Desirability Scale were mean centered, and entered in step one of the regression. In step two, variables related to ethno-racial identification were added to the model. To this end, the Middle Eastern sample was dummy coded as the reference group (0-0-0). Dummy codes were also created for each of the other ethno-racial groups (White[9]: 1-0-0; Black[10]: 0-1-0; and South Asian 0-0-1). This coding system facilitated the interpretation of model coefficients (e.g., the intercept at each step of the model reflects the mean of the dependent variable for the Middle Eastern group while all other variables are held constant). The VIA was mean centered and added in step two as well. Step 3 added the mean centered Level of Contact Report (LOCR) rank score. Finally, step 4 added three interaction terms. Specifically, the interaction between ethno-racial group[11] and participant's degree of identification with said ethno-racial group (as measured by the VIA) on each of the outcome variables.

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[9] Includes participants identifying as White European and White North American.

[10] Includes participants identifying as Black Caribbean, Black African and Black North American.

[11] The same dummy codes described previously were used to identify each of the non-Middle Eastern groups in the interaction term. Again, the Middle Eastern group was used as the reference sample against which the White, Black, and South Asian groups were compared.

The model equation is as follows:

$$y = b_0 + b_1 \text{ Denial} + b_2 \text{ Enhancement} + b_3 \text{ White} + b_4 \text{ Black} + b_5 \text{ South Asian} + b_6 \text{ VIA} + b_7 \text{ LOCR} + b_8 \text{ VIA*White} + b_9 \text{ VIA*Black} + b_{10} \text{ VIA*South Asian}$$

Assumptions. Outliers in the data were detected along most of the dependent variables. However, removal of said outliers did not result in a change to the main study findings. As a result, all cases were left in the dataset. The assumptions of homoscedasticity, independence of errors, and multicollinearity for the regression analyses were assessed and met. The residuals in the Hygiene and Recovery models were somewhat positively skewed. Log10 transformations were applied, and resulted in improvements in normality. However, given the main findings were again unchanged, untransformed results are presented below.

Correlations. To supplement the regression findings, Pearson product-moment correlations between the degree of ethno-racial identification and the MIS outcome variables by ethno-racial group were also computed.

Specific hypotheses related to the quantitative analyses.

Hypotheses 1 and 2. Beta coefficient for the White group relative to the Middle Eastern reference sample were examined at two separate steps in the hierarchical regression analyses for each of the MIS outcome variables. Examination of this beta coefficient in step 2 of the models revealed whether differences between the White and Middle Eastern groups on the dependent variables were significant after controlling for social desirability biases in responding. This same beta coefficient was also inspected in step 3 of the model, to ascertain whether observed differences are maintained after accounting for the effect of level of familiarity with mental illness (i.e., the LOCR term) on self-reported MIS. In keeping with hypotheses 1 and 2, both statistics were expected to reach significance for the Perceived Stigma subscale of the PSBCPP scale, the MISS-Anxiety subscale, the MISS-Relationship Disruption subscale, and the Social Distance Scale. Conversely, beta coefficients associated with the Black and South Asian groups relative to the Middle Eastern reference sample, were not expected to be significant in Step 2 or 3 of any of the models.

Hypothesis 3. In keeping with the study's third hypothesis, Pearson product-moment correlations between participants' degree of ethno-racial identification and the MIS outcome variables were expected to be negative in the White group, and positive in the Middle Eastern group. Additionally, the White versus Middle Eastern interaction terms added in step 4 of the regression equations were expected to reach significance, as this would support the idea that there is a notable difference in the relationship between MIS and degree of ethno-racial identification in the Middle Eastern versus the White groups. In contrast, the interaction between degree of ethno-racial affiliation in the South Asian or Black groups (relative to the Middle Eastern sample), were not expected to reach significance.

Significance level. Given the number of proposed analyses, the alpha level was set to 0.01 to reduce the chance of false positive (Type I) errors.

Content analysis. Content analysis was applied to the responses of open-ended questions #1 and #2 with the goal of identifying emergent themes in the data pertinent to the expression of MIS. The approach employed and described below was drawn from the work of Krippendorff (2004) as well as Taylor-Powell and Renner (2003).

1. Each unit of analysis (i.e., the response set for open-ended question #1 and the response set for open-ended question #2) was reviewed multiple times to gain familiarity with the content. Initial impressions regarding patterns and themes in the data were recorded.

2. The author considered her initial impressions of the data, alongside the main purpose of the study, to establish a focus for the content analysis, namely, to describe the nature of MIS across ethno-racial groups. In addressing this goal, each unit of analysis was initially examined independently, in relation to the following questions: a) how do individuals in participants' ethno-racial community describe PABMI? (open-ended question #1); and, b) how is MIS expressed by individuals in participants' community? (open-ended question #2).
3. NVivo software (version 11.4.0) was used to assist with the categorization and analysis of the data as described in the following steps. Each of the responses to open-ended question #1 (which included up to ten responses) was assigned a code that captured the main concept pertinent to the response (e.g., the code "cognitive difficulties" was assigned to the response "stupid.") Responses to open-ended question #2 were assigned one or more codes, depending on the number of unique concepts relevant to the expression of MIS captured within each response (e.g., the response "people with mental illness are ignored by the community, mental illness stigma is also expressed by putting labels on people," was assigned two codes, namely "ignoring" and "labelling.") Preliminary codes remained close to the language used by participants.

   All codes were clearly labeled and defined to delineate the content they subsumed. This was an iterative process in that codes were continuously redefined to better reflect their content. At times, it was necessary to divide a single code into two separate ones to ensure homogeneity of the content within each code. New codes were also created when data did not fit within existing labels. This process was continued until all data were categorized.

Given the study aimed not only to describe the nature of MIS, but also to uncover differences in its expression across ethno-racial groups, all codes were initially assigned blind to group membership. This reduced the potential for biases in the manner in which the author coded the data, based on her own experiences with each of the ethno-racial groups[12]. Of note, responses provided in a language other than English could not be interpreted by the author and were temporarily grouped in an "other language" category. These responses were coded in a later step.

4. Codes that were related in meaning were grouped into higher-order categories, in a hierarchical fashion (i.e., sub-categories, categories, and super-categories).
5. Once the coding structure was finalized, each code and category was reviewed to ensure their content was relatively homogeneous. Codes and categories were also examined to ensure that they reflected relatively distinct and mutually exclusive constructs (Graneheim & Lundman, 2004).
6. Although each unit of analysis (i.e., open-ended question #1 and open-ended question #2) was first coded independently, examination of their respective codes, sub-categories, categories and super-categories revealed considerable overlap in their coding structure. Hence, as an added step, the data across both questions were merged.

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[12] This was achieved by omitting information related to participants' ethno-racial identification from the data visible to the author during the coding process.

7. After a coding structure integrating both units of analysis had been established, each response was re-assigned to participants' primary ethno-racial group.
8. Once responses were reassigned to participants' primary ethno-racial group, the author endeavoured to translate and code the responses previously included in the "other language" category by consulting with volunteers[13] identifying with the appropriate ethno-racial group.
9. As a final step, all responses belonging to the same ethno-racial group were considered collectively. The author again consulted with the volunteers to verify her interpretation of the categories and super-categories identified in the coding structure, as they applied to the volunteers' ethno-racial group. Revisions to the coding structure were made as appropriate.

In completing the qualitative content analysis, the author made note of any biases she held that could influence her coding of the data. On a regular basis, she revisited these potential biases and considered whether they may have inadvertently influenced the coding structure that had been developed. She also regularly sought feedback from several volunteers to confirm whether she had accurately interpreted the data.

Analytical techniques. Three frequency counts were derived to summarize the data, namely, the spread, density, and salience frequencies.

Relative frequency (spread). According to Krippendorff (2004), the relative frequency refers to the number of participants providing responses that fall within a given category (i.e., the number of unique participants who endorsed terms or phrases that fell within a particular

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[13] All volunteers were graduate level psychology students identifying as either White, Black, South Asian or Middle Eastern.

category). When not otherwise specified, frequency counts noted in the results section that follows refer to the spread, or relative, frequency.

Absolute frequency (density). In addition to the relative frequency, Krippendorff (2004) also defined the absolute frequency count, which reflects the number of incidents that fall within a given category independent of the source of that information (i.e., the number of times terms or phrases subsumed within a given category are reported). The absolute frequency, or density, count was deemed important given each participant may have provided up to 11 responses (i.e., 10 responses to open-ended question #1, and one response to open-ended question #2) across which similar themes may have been repeated, perhaps denoting the importance of a particular concept to the individual.

Relative frequency of first response (salience). In addition to frequency counts reflective of the spread and density of responses, a frequency count that captured categories that were most salient to participants was also generated. Specifically, this frequency count captured categories associated with the first word or phrase identified in open-ended question #1.

All frequency counts were computed, and are provided in percent form[14] for each of the ethno-racial groups in the study.

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[14] The percent spread and salience statistics were computed by dividing the frequency count by the number of participants in each ethno-racial group. Conversely, the percent density statistic was computed by dividing the frequency count by the total numbers of responses coded within each ethno-racial group.

Results

Sample Description

The final sample consisted of 424 York University students. Roughly three fourths were women (n = 325 women [Mage = 21.43; SD = 6.03]; n = 99 men [Mage = 21.02; SD = 4.61]). There were no significant sex differences along the dependent variables, across the entire sample and within each ethno-racial group. Most participants reported having completed some post-secondary education (89.9%), while the remainder reported having either a bachelor degree (7.5%) or a graduate degree (2.6%). The most common language spoken by participants with family or friends was English (94.8%). However, a sizable minority also reported speaking Arabic (9.7%), French (9.0%), Hindi (5.7%), Italian (4%), Urdu (7.8%), Farsi (11.8%) and Punjabi (5.4%).

Participants were similarly distributed across ethno-racial groups, $n_{\text{White}} = 105$, $n_{\text{Black}} = 105$, $n_{\text{South Asian}} = 104$, and $n_{\text{Middle Eastern}} = 110$ [15]. Most participants identified as either Christian (38.7%) or Muslim (29.0%). Christianity was the most commonly reported religion among participants who identified as White (61.0%) and Black (74.3%). Islam was the most common religion reported among participants identifying as South Asian (43.3%) and Middle Eastern (54.6%).

In general, persons identifying as White were the second generation to be born in North America (60% reported both parents were born in Canada, and 54.3% indicated all their grandparents were born abroad). Among participants identifying as Black, the majority were of

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[15] While participants were grouped into these four ethno-racial groups for the purposes of the analyses, the ethno-racial group with which participants initially identified in the survey were as follows: White European (n = 73); White North American (n = 32); Black African (n = 51); Black North American (n = 5); Black Caribbean (n = 49); South Asian (n = 104); and Middle Eastern (n = 110).

the first generation to be born in North America (64.8% reported they were born locally, and 96.2% of respondents stated both parents were born out of the country). A similar pattern was observed among South Asian participants. Roughly half of them were born in North America (51.9%), and a majority noted their parents were born abroad (97.1%). In contrast to all other groups, a majority of Middle Eastern participants were of the first generation to have immigrated to Canada, with 75.5% reporting that they were born in another country. Further, over one third reported moving to Canada after the age of 15 (34.6%). A summary of this information is provided in Table 4.

Participants were also asked about their experience with mental illness. Approximately one fourth of participants across the entire sample reported having experienced a mental illness at one point in their life (see Table 5). However, this proportion was unevenly distributed across ethno-racial groups. In fact, persons identifying as White were nearly twice as likely to report having experienced a mental illness than were persons identifying with any of the other ethno-racial groups (White, 40%; Black, 23%; South Asian, 21%; Middle Eastern 20%). Among participants having experience with mental illness, a majority (59.09%) reported getting some kind of treatment, although the proportion of said individuals was again unevenly distributed across ethno-racial groups (White, 64.29%; Black, 58.33%; South Asian, 54.54%; and Middle Eastern, 54.54%).

Quantitative Results: Descriptive Findings

Perceived mental illness stigma as a barrier to help-seeking across ethno-racial groups. Mean scores and standard deviations for each of the quantitative outcome variables are summarized in Table 6. The mean score for the Perceived Stigma subscale of the PSBCPP scale was moderately high across the 424 respondents (3.02 out of 5). The mean score for the White group was 2.65. Mean scores in the Black, Middle Eastern, and South Asian groups were 2.98, 3.18, and 3.26 respectively. To provide some context, the mean score for a sample of American first year psychology students in another study was 2.69 (Britt et al., 2008).

Prejudicial attitudes. A review of the data for the entire sample showed that the mean MISS-Total score was 70.03 out of a total possible score of 182. The mean MISS score across all subscales was 2.74 out of 7 (*range* = 2.28 to 3.59). This may be indicative of a mild endorsement of prejudicial attitudes towards PABMI, given a mean MISS total score of 90 and a mean subscale score of 4 reflects the midpoint between agreement and disagreement with the MISS items. As a point of reference, means scores ranged from 2.78 to 5.33 in an American undergraduate psychology student population (Day et al., 2007) and from 1.92 to 3.27 in a sample of Canadian students enrolled in a health-related program (Hawke, Michalak, Maxwell, & Parikh, 2014).

Across the entire sample, the highest mean subscale score was observed along the Visibility subscale ($M_{\text{Visibility}} = 3.59$), and the lowest mean subscale scores were observed along the Treatability ($M_{\text{Treability}} = 2.52$) and Recovery ($M_{\text{Recovery Scale}} = 2.28$) subscales[16]. This suggests that participants were likely to hold the belief that PABMI look or behave differently than persons not affected by mental illness, while at once recognizing that there are treatments for mental illness that may aid in their recovery.

Similar conclusions were drawn upon examination of the mean subscale scores for each of the four ethno-racial groups. Across groups, the highest subscale scores were reported on the Visibility subscale ($M_{\text{White}} = 3.60$; $M_{\text{Black}} = 3.35$; $M_{\text{South Asian}} = 3.67$; $M_{\text{Middle Eastern}} = 3.74$). Among

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[16] Paired samples t-tests suggested that the difference between the Visibility subscale and the Treatability and Recovery subscales were significant ($p < .001$).

participants identifying as Black, South Asian and Middle Eastern, the least stigmatizing attitudes related to the affected person's ability to recover from mental illness ($M_{\text{Black}} = 2.06$; $M_{\text{South Asian}} = 2.58$; $M_{\text{Middle Eastern}} = 2.32$). Conversely, participants identifying as White saw little association between PABMI and poor hygiene ($M = 2.02$)[17].

Discrimination. The mean SDS score across the entire sample was 2.62 on a 5-point Likert type scale, perhaps reflecting some ambivalence about participants' willingness to interact with PABMI. Scores across ethno-racial groups ranged from 2.43 among persons identifying as White to 2.83 in the Middle Eastern sample. As a reference, mean samples scores in an ethnically diverse American population and in a sample of Canadian youth were 2.27 and 3.73 respectively (Cheon & Chiao, 2012; Livingston et al., 2013).

Association between mental illness stigma variables. Pearson product-moment correlations between each of the mental illness stigma dependent variables are summarized in Table 1. As expected, the correlations between personal (i.e., the MISS and the SDS) and perceived public mental illness stigma as a barrier to treatment-seeking (i.e., the Perceived Stigma subscale of the PSBCPP scale) were generally weak, although significant.

Each of the MISS subscales were positively and significantly correlated with each other as suspected, with one notable exception, the 2-item Professional Efficacy subscale. While this subscale was moderately correlated with the MISS-Treatability subscale ($r = .36$), it evinced weak to negligible correlations with all other subscales. Moderate (> 0.30) to strong (> 0.50) correlations were observed between the other MISS subscales, the most notable of which were among the Anxiety, Relationship Disruption and Hygiene subscales. The fact that these subscales

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[17] Paired samples t-tests again revealed that the difference between the highest and lowest subscale scores were significant ($p < .001$) in each of the ethno-racial groups.

are highly correlated adds to the content validity of the MISS as capturing several facets of prejudice, perhaps linked to an underlying latent variable, like mental illness stigma. In keeping with this idea, the MISS-Total score demonstrated a strong association with all subscales (except for the Professional Efficacy subscale once again), and with the Anxiety and Relationship Disruption subscales in particular.

Proxies for prejudicial attitudes and discrimination towards mental illness (i.e., the MISS Total and subscale scores and the SDS respectively) generally showed significant moderate correlations.

Quantitative Results: Analyses Addressing Study Hypotheses

Hypothesis 1: Ethno-racial group and perceived public mental illness stigma. Table 7 provides a summary of the hierarchical linear regression analysis for the Perceived Stigma subscale of the PSBCPP scale. It shows that 10% of the variance in the dependent variable was accounted for by the final model, which included independent variables related to ethno-racial identification, social desirability and level of familiarity with mental illness. Relative to persons identifying as Middle Eastern, White ethno-racial identification demonstrated a significant negative association with perceived public MIS in step two of the model. Specifically, White identification was associated with a 0.63-point decrease in Perceived Stigma subscale scores as compared to the Middle Eastern reference group ($b_{\text{White}} = -0.63, p < .001$). This effect remained significant even after the LOCR rank score was added as a predictor in Step 3 of the model. None of the other ethno-racial groups significantly predicted the Perceived Stigma subscale score, relative to individuals identifying as Middle Eastern.

Hypothesis 2: Ethno-racial group and prejudicial attitudes. Tables 8 through 15 summarize the results from the hierarchical linear regression analyses for the MISS total and subscale scores. Final models explained between 3 and 21% of the variance in the outcome variables.

The hierarchical regression analysis of the MISS Total score revealed that there is a significant effect of ethno-racial group on the outcome variable, after controlling for social desirability and level of contact with mental illness (see Table 8). Specifically, White ethno-racial identification was associated with a 10.33 point decline in MISS Total scores, relative to persons identifying as Middle Eastern ($p = .005$). Hierarchical regression analyses for each of the subscale scores were then reviewed to determine whether this finding would be consistent across all prejudicial attitudes, or if significant differences would only be apparent on those subscales pertinent to Middle Eastern values and culture as hypothesized (i.e., the Anxiety and Relationship Disruption subscales).

Given the overlap in findings across the Anxiety, Relationship Disruption, Hygiene, and Treatability subscales, results are collectively described below (and are summarized in Tables 9, 10, 11 and 14). Across all four subscales, adding ethno-racial group and degree of identification with one's primary ethno-racial group (i.e., the VIA scores) to step 2 of the models explained 3 to 11% of the variance in the dependent variables, above and beyond the effect of social desirability. Once again, White ethno-racial identification demonstrated a significant negative association with the outcome variables, relative to persons identifying as Middle Eastern. Specifically, White racial identification was associated with a 0.42 to a 0.79-point decrease in stigma scores as compared to the reference group ($b_{\text{White – Anxiety Subscale}} = -0.79, p < .001$; $b_{\text{White – Relationship Disruption Subscale}} = -0.55, p = .003$; $b_{\text{White – Hygiene Subscale}} = -0.51, p = .005$; $b_{\text{White – Treatability Subscale}} = -0.42, p = .010$). However, after adding LOCR rank scores to step 3 of the model, the beta coefficients associated with the White group, relative to the Middle Eastern reference sample, were no longer significantly predictive of the variance in the Relationship Disruption, Hygiene or Treatability subscales. In fact, only in the Anxiety subscale regression model did the beta coefficient affiliated with the White versus Middle Eastern group remain significant ($b_{\text{White}} = -0.62$, $p < .001$). Note, differences between the Middle Eastern and Black, as well as the Middle Eastern and South Asian groups, were not significant at step 2 or 3 of the regression models for any of the four subscales.

In contrast to the subscales described above, ethno-racial identification did not significantly explain variance in the Visibility, Recovery and Professional Efficacy subscale scores at any step of the models (see Tables 12, 13, and 15).

Hypothesis 2: Ethno-racial group and discrimination. Results of the hierarchical regression analysis for the SDS are presented in Table 16. As before, the final model included independent variables related to social desirability, ethno-racial identification, and familiarity with mental illness. Table 16 shows that together, these variables accounted for 14% of the variance in SDS scores.

In step 2 of the model, both the White and Black groups demonstrated a significant negative association with the SDS mean scores, relative to the Middle Eastern group. Specifically, White ethno-racial identification was associated with a 0.44-point decrease ($p = .001$), and Black ethno-racial identification was associated with a 0.41-point decrease ($p = .003$) in mean SDS scores. As before, these relationships were weakened with the addition of the LOCR rank scores in step 3 of the model. In this instance, the beta coefficient associated with the White group no longer met threshold for significance ($b_{\text{White}} = -0.32$, $p = .020$), while the beta coefficient associated with the Black group did ($b_{\text{Black}} = -0.38$, $p = .004$).

Hypothesis 3: Degree of identification with ethno-racial group and mental illness stigma. Pearson product-moment correlations between the degree of participants' identification with their primary ethno-racial group (i.e., the VIA scores) and each of the mental illness stigma outcome variables are presented in Table 17. Ethno-racial identification was not significantly related to any of the mental illness stigma scores in the White, Black or South Asian groups. In the Middle Eastern group, however, significant weak to moderate positive associations were observed between the VIA scores and the MISS-Anxiety ($r = 0.44, p < .001$) and the MISS-Relationship Disruption ($r = 0.28, p = .003$) subscale scores, as well as the SDS ($r = 0.25, p = .008$). In other words, Middle Eastern persons who self-reported greater identification with their ethno-racial group, generally demonstrated a preference for increased social distance, and endorsed beliefs about PABMI as causing anxiety and disrupting relationships.

According to findings from the hierarchical linear regression analyses depicted in Tables 8, 9 and 10, VIA scores significantly predicted the MISS Total score, as well as the Anxiety and Relationship Disruption subscale scores in step 2 of the models. Specifically, every one-point increase in VIA scores was associated with a 3.11-point increase in MISS-Total scores ($p < .001$), a 0.19-point increase in mean MISS-Anxiety subscale scores ($p < .001$), and a 0.16-point increase in mean MISS-Relationship Disruption subscale scores ($p = .001$). In contrast, VIA was not found to be a significant predictor in step 2 of the models for any of the other dependent variables.

Contrary to the study's third hypothesis, the VIA by White (relative to Middle Eastern) group interaction did not reach significance in step 4 of the model for any of the outcome variables. In other words, the relationship between VIA and the mental illness stigma outcome variables did not differ significantly in the White versus Middle Eastern groups. The interaction terms for the Middle Eastern versus South Asian and Black groups similarly failed to reach significance, but this result was expected.

Quantitative Results: Covariates and Mental Illness Stigma

Social desirability and mental illness stigma. As outlined in the introduction, a key limitation to the extant literature is the failure to account for social desirability biases in responding when exploring differences in self-reported MIS across ethno-racial groups. Given this, it is notable that social desirability played an important role in understanding mental illness stigma scores in the present study. In fact, the Enhancement and Denial subscale scores collectively accounted for 3 to 10 % of the variance in the SDS, the Perceived Stigma subscale of the PSBCPP scale, and the Anxiety, Recovery, Treatability, and Professional Efficacy subscales of the MISS (see Tables 7, 9, 13, 14, 15, and 16). Denial scores were significantly negatively associated with the Anxiety and Recovery subscale scores of the MISS. Specifically, every one-point increase in Denial scores was associated with a 0.25-point and a 0.24-point decrease in the MISS-Anxiety (p = .002) and the MISS-Recovery (p = .004) mean subscale scores respectively. Enhancement scores showed a significant negative association with the SDS, as well as the Treatability and Professional Efficacy subscale scores of the MISS. In this instance, a one-point increase in the Enhancement scores corresponded to a 0.49, a 0.74, and a 0.25-point decrease in the Treatability (p < .001), Professional Efficacy (p < .001), and SDS scores (p = .001) respectively. Both the Denial and Enhancement terms demonstrated a significant association with the Perceived Stigma subscale of the PSBCPP scale. Perceived public stigma scores were expected to decrease by 0.24 points with every one point increase in Denial scores (p = .002). Conversely, every one point increase in Enhancement scores was associated with a 0.29 point increase in Perceived Stigma subscale scores (*p* = .001). These effects were maintained at all steps of the models.

In contrast, the Enhancement and Denial subscale scores did not account for a significant proportion of the variance in the final models of the MISS Hygiene, Visibility, and Relationship Disruption subscales scores at an alpha of 0.01, nor did they account for a significant proportion of the variance in the MISS-Total scores.

Level of contact with mental illness and mental illness stigma. It is similarly interesting to note that the LOCR rank scores accounted for as much as 6% of unique variance in the mental illness stigma outcome variables, beyond that which was explained by ethno-racial identity and social desirability (see Tables 8, 9, 10, 11, 14 and 16). In fact, each one-point increase in the LOCR rank scores was associated with a 0.09 to a 0.15-point decrease in the Anxiety, Relationship Disruption, Hygiene and Treatability subscales of the MISS ($p < .001$), a 0.11-point decrease in the Social Distance Scale scores ($p < .001$), and a 2.54-point decrease in the MISS-Total scores ($p < .001$). In contrast, the LOCR rank scores did not account for a significant proportion of the variance in the Perceived Stigma subscale of the PSBCPP scale scores, or in the Visibility, Recovery and Professional Efficacy subscale scores of the MISS.

Qualitative Results

Participant responses to open-ended question #1 (i.e., “List up to ten words or phrases used by others in your ethno-racial community to describe persons affected by mental illness” $n_{\text{participants}} = 403$; $n_{\text{responses}} = 3133$) and open-ended question #2 (i.e., “How is stigma expressed in your ethno-racial community?”; $n_{participants} = 168$; $n_{responses} = 168$) were explored using content analysis.

After reviewing each unit of analysis, acknowledging her own biases and attempting to bracket these, and consulting with volunteers to verify her interpretation of the data, the author concluded that responses across both units of analysis generally fell within three broad categories. The first of these reflected negative appraisals of PABMI, and encompassed most responses (absolute percentage or density of 68.63%). Participants identified terms like "insane," "possessed," and "incapable" as being used by members of their ethno-racial community to describe PABMI, with one participant noting "[mental illness] is disgraceful and is often used as an insult to bring another individual down." In contrast, roughly one fifth of responses were neutral in valence, and generally aimed to describe the person with mental illness or their situation in non-judgmental and respectful terms (density of 19.27%). PABMI were described as "distressed," "down in the dumps" or as individuals who are simply "suffering." The remainder of the statements highlighted positive characteristics attributed to PABMI or prosocial behaviours experienced in relation to this group (density of 12.10%). Some described PABMI in affirmative terms, like "gifted" or "a hero for their suffering." Several respondents reported that they and others in their community have compassion for PABMI, and reported that phrases like "poor thing" or "so sorry to see him/her like that" are used in relation to members of this group. Participants added that some individuals in their ethno-racial group will wish the affected individual well (e.g., "hope they recover soon") and convey an intent to support them (e.g., "I am here for you.") The distribution of negative, neutral and positive responses was similar across ethno-racial groups, in the sense that negative statements were most frequently cited, followed by neutral and positive statements (see Figure 2 for a visual illustration of the valence of responses across ethno-racial groups).

The reader is referred to Tables 18 through 20 for an illustration of the codes, sub-categories, categories, and super-categories which emerged from the content analysis, that are pertinent to each of the negative, neutral and positive valence items. The remainder of the results described herein focus on the negative valence items, as these were deemed most relevant to the expression of MIS across ethno-racial groups.

Negatively valenced codes fell broadly into one of three super-categories, namely, a) beliefs or stereotypes about PABMI; b) affective experiences induced in the presence of PABMI; and c) actions or discriminatory behaviours one might display in relation to PABMI.

Nature of stereotypical beliefs. Participants reported that negative beliefs in relation to PABMI and their families, as well as unfavourable beliefs about the cause, the nature, and the consequences of mental illness, are often endorsed by others in their ethno-racial community (see categories listed in Table 18). Specific beliefs (i.e., sub-categories) about the individual, as well as the cause and nature of mental illness, reported by at least 15% of respondents (spread) in at least one of the four ethno-racial groups are described below[18].

Beliefs about persons affected by mental illness. Six broad sub-categories describing individuals with mental illness emerged from the data. These were: 1) beliefs about the person as different; 2) beliefs about the person as crazy; 3) beliefs about the person as inadequate; 4) beliefs about the person as a failure; 5) beliefs about the person as a nuisance; and 6) beliefs about the person's experience as invalid.

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[18] Beliefs about the individual's family, in addition to beliefs about the consequences of mental illness, were not frequently mentioned by participants. It also appears these ideas were not of topical interest to participants in reflecting on the expression of MIS in their ethno-racial group. This is likely to have occurred because these concepts were not directly pertinent to the questions posed to participants. Given the paucity of responses falling in these categories, saturation is unlikely to have been achieved. Hence, results relating to these categories are not discussed here.

Affected individual as different. This category subsumed terms that suggest the affected individual is perceived as deviating from the norm in an unfavourable way. Some examples of terms used were “abnormal,” “odd,” “strange,” “unusual” and “weird.” This quality of being “different” was at times clearly associated with negative consequences. As one Middle Eastern participant put it, “if you are not the same, you are not one of them, and if you are not one of them, you don’t exist.” Across the entire sample, over one third of participants reported that people in their ethno-racial community describe PABMI as “different,” although such terms were most commonly reported by individuals identifying as White.

Affected individual as crazy. Terms subsumed within this category were generally more derogatory in nature, and characterized the individual as being of unsound mind. The words “deranged,” “insane,” “mad,” “nuts” and “mental case” are but a few examples. Being labelled as “crazy” was not only demeaning but came with aversive repercussions in some cases as well. Another participant who was also Middle Eastern wrote “people think that anyone with a mental illness is dangerous and crazy, and should be put away in a private facility.” This category was most commonly identified as relevant to persons in the South Asian community, although it was reported by roughly half of all other ethno-racial groups as well.

Affected individual as inadequate. Approximately half of participants across groups reported that PABMI are described as “inadequate,” “flawed,” “deficient,” or “lacking” in some way, by members of their ethno-racial community. This “inadequate” category captured beliefs about the individual as being weak or vulnerable (e.g., PABMI as “lame,” “fragile,” or “crippled”). In one instance, a participant identifying as Black Caribbean noted “the individual is often labeled as the weakest of a family or house.” This category also included beliefs about cognitive deficiencies. Some remarked “he/she is slow,” and reported words like “idiot,” "unintelligent," and "unreasonable" were used by others in their community to describe PABMI. This category was most commonly reported among persons identifying as Black Caribbean, African and Canadian.

Affected individual as a failure. This category pertained to beliefs about PABMI as generally unable or unwilling to meet role expectations or societal obligations. One participant commented "they [members of the Middle Eastern community] think they [PABMI] are less capable of doing things than others who are normal." Another participant remarked "they [members of the Black Caribbean community] think mental illness is equal to incompetent." Other terms and phrases falling in this category were "unemployable," "useless," "lazy," and "not a full member of society." Beliefs about PABMI as a "failure" were reported among at least one fifth of participants across groups, and were most commonly cited as a prevalent belief in the Middle Eastern community.

Affected individual as a nuisance. Between 15% and 30% of participants across groups reported that members of their ethno-racial community perceive PABMI as bothersome or annoying. Affected individuals were described as a "burden," "dependent," "disgusting," and "unpleasant." Persons identifying as White were most likely to report that members of their community describe PABMI as a nuisance.

Affected individual's experience as invalid. Respondents across groups shared that the experience of those with mental illness is often deemed invalid in some way. This term, borrowed from the literature on emotion dysregulation and borderline personality disorder (Linehan, 1993), refers to beliefs that a persons' experience does not make sense, is unimportant, or is somehow unacceptable. Invalidation comes in many forms. In the current study, this sub-category subsumed beliefs about the person as insincere, noting instead that PABMI are "seeking attention," being "dramatic," "exaggerating," "over-reacting," "faking" or "lying." It also included beliefs that minimize the true extent of the struggles experienced by PABMI or frankly communicate that they are not real. One South Asian participant noted "anyone under the age of 40 is not allowed to have a mental illness because 'they are too young' and are just going through a dumb breakup or phase…" Another Black participant reported "many people don't understand or don't believe in 'mental health' conditions." Beliefs about the affected individual's experience as invalid were reported as occurring most frequently in South Asian communities.

Frequency of stereotypical beliefs about persons affected by mental illness by ethno-racial group.

Spread. Persons identifying as Middle Eastern and Black were most likely to report that PABMI are described as inadequate by members of their ethno-racial community (55% and 60% respectively). In both groups, this was followed by beliefs about PABMI as crazy, different, a failure, and a nuisance (see Figure 3). Persons identifying as South Asian were most likely to report the use of words related to the term "crazy" to describe PABMI (61%). Other common terms related to the affected individual as inadequate, different, or a failure, and to their experience as invalid. The most common terms reported by persons identifying as White involved the belief that PABMI are different (52%). An equal proportion of individuals also reported the belief that PABMI are crazy and inadequate, followed by a nuisance and a failure.

Salience. When asked to list words or phrases used by persons in their ethno-racial community to describe PABMI, terms falling in the "crazy" category were among the most frequently cited in the Black, South Asian and Middle Eastern groups (see Figure 4). Consistent with the results described above, terms related to PABMI as "different" were most commonly the first term cited in the White group.

Density. Figure 5 shows the number of incidents falling within each of the six categories of stereotypical beliefs described above. Terms or phrases denoting PABMI as different were most common among individuals identifying as White, capturing 12% of total responses. Persons identifying as Black, South Asian and Middle Eastern were most likely to report the use of terms related to PABMI as crazy (17%, 12%, and 10% respectively) and inadequate (16%, 11% and 11% respectively) among members of their ethno-racial communities.

Beliefs about the cause of mental illness. Two negative stereotypes about the cause of mental illness emerged from the data, namely, the belief that PABMI are to blame, and the belief that supernatural forces are to blame. Eight percent of participants in the sample attributed blame to the affected individual, using phrases like "don't pray enough," "committed crimes in a past life," and "they do it to themselves." Beliefs such as these were most commonly reported in the South Asian group (17% of respondents), and less frequently reported in the White (7%), Black (8%) and Middle Eastern (3%) groups. Only one participant listed a term falling in this sub-category first in open-ended question # 1 (i.e., little salience.) This category was also infrequently cited across responses, with absolute frequencies (i.e., density) varying between 0 and 2% across ethno-racial groups. Beliefs relating to a supernatural cause were seldom mentioned, with no one group yielding relative frequencies or spreads greater than 15%.

Beliefs about the nature of mental illness. Participants also commented on the nature of mental illness, with ideas falling broadly into one of two categories: mental illness as a general impairment and mental illness as an impairment in psychological or affective functioning. Only the latter of these two sub-categories was reported with sufficient frequency (i.e., 15% spread across members of at least one of the ethno-racial groups), to be described below.

Approximately one in five participants across the entire sample referred to mental illness as an impairment in psychological or affective functioning. Subsumed within this category were terms like “bipolar,” “delusional,” “sick in the head” and “mentally incapacitated.” This category was endorsed among 18% of White, 20% of Black, 31% of South Asian, and 24% of Middle Eastern participants (spread). It was the category assigned to the first term mentioned in open-ended question #1 among 3% of Middle Eastern and South Asian participants, as well as 1% of participants identifying as White and Black (salience). Density estimates fell between 3% and 4% across groups.

Nature of affective experiences. Terms denoting negative emotions experienced in relation to PABMI were reported among 16% of participants in the sample. These included phrases like “contempt,” “confusion,” “I’m afraid of this weirdo,” “downer,” “uncomfortable” and “stressful.” However, no single sub-category of emotional experiences (e.g., fear, anger) was reported by any more than 1% of participants within any group, and so these findings are not discussed further here.

Nature of discriminatory behaviours. Participants reported that members of their ethno-racial community engage in a number of potentially harmful behaviours in relation to PABMI. These include gossip, shaming, social rejection, blocking opportunities, invalidation, verbal and physical attacks, as well as social distance. The latter three sub-categories were reported by at least 15% of participants in one of the ethno-racial groups (in this case the South Asian group), and are described below.

Social distance. A sizable minority of participants reported that members of their ethno-racial group engage in behaviours aimed at avoiding contact with PABMI. One South Asian participant noted “people [will] not build close ties with someone who has a mental illness.”

Another participant indicated “people with mental illness in the Middle East are often excluded and ostracized.” Other participants reported phrases like “do not go near them,” “don’t get involved with them,” “go away!,” and “keep him/her away from my kids.” Social distance was most frequently reported in the South Asian, followed by the Middle Eastern and White groups. Persons identifying as Black were least likely to report social distance towards PABMI as occurring in their community.

Attacks. Verbal affronts, physical attacks, and other forms of aggression were also reported across groups. This included name calling (e.g., “people calling them crazy”), defaming (e.g., “[individuals identifying as South Asian] defame that person’s name and his reputation in the community”), and mocking (e.g., “making fun of people with mental difficulties”). As one participant put it, “in my opinion, stigma is expressed in the South Asian community through rage, where if a person does not like the quality of someone, they make horrible remarks of them directly or indirectly to ensure that the person knows that other people do not like them.” This category also subsumed more extreme forms of aggression, such as bullying and abuse (e.g., “people physically / verbally / socially / sexually abuse [PABMI]”), although this degree of aggression was reported infrequently (i.e., spread of approximately 1% across the entire sample). Attacks were reported most commonly by South Asian participants, followed by White, Middle Eastern, and Black participants.

Invalidation. Invalidating behaviour towards PABMI was commonly cited among those actions expressed by persons in participants’ ethno-racial group. Respondents reported that affected individuals may be dismissed (e.g., “ignore them,” “brushing them off”), or accused of being disingenuous (e.g., “they are accused of exaggerating”). Their difficulties may also be minimized (e.g., “just in your mind,” “you will grow out of it”), as if the affected individuals could simply “snap out of it.” Alternatively, the existence of their mental health problems was sometimes entirely denied (e.g., “not acknowledging the reality of the disorders.”) Invalidating comments were most frequently cited by South Asian participants, followed by Black, Middle Eastern and White participants.

Frequency of discriminatory behaviours towards persons affected by mental illness by ethno-racial group.

Spread. Persons identifying as White were most likely to report social distance (13%) towards PABMI by members in their ethno-racial community, followed by attacks and invalidation (see Figure 6). Participants in the Black group reported invalidation (13%) most commonly, followed by social distance (8%). The frequency of attacking responses in this group was relatively low (3%). In the South Asian group, social distance, attacks, and invalidation appeared to occur with similar frequency (all fell between 15% and 17%). Finally, persons identifying as Middle Eastern were most likely to have observed social distance (13%) and invalidation (11%) in their ethno-racial community.

Salience. Although discrimination was mentioned by a sizable minority of participants across responses, this form of stigma was rarely among the first word or phrase provided to describe someone with mental illness. In fact, terms denoting a desire for social distance or attacking behaviour were never among the first term listed in open-ended question #1, and invalidating terms were noted first among less than 1% of the sample.

Density. Relative to the total number of responses, terms denoting social distance, invalidation, and attacking behaviour were also infrequent, reflecting between 0 and 3% of responses within any one group (see Figure 7).

Discussion

The present study is the first to examine MIS among Middle Eastern Canadians, which is particularly important given the current political climate, and the pressing need to integrate Middle Eastern refugees in Canada. It used a mixed method design to address critical gaps in the literature relating to the impact of MIS and its nature across ethno-racial groups, and in the Middle Eastern context in particular. With regards to the impact of MIS, results suggest that MIS acts as a greater deterrent to help-seeking among Middle Eastern Canadians, than it does among Canadians identifying as White. As for the nature of MIS, the study confirms that endorsement with some, but not all, prejudicial attitudes is higher among Middle Eastern Canadians than it is among White participants. The present research also adds to the literature by proposing themes or constructs not formally included in existing MIS measures, that appear relevant to the study of MIS among persons identifying as Middle Eastern. Results are discussed further below.

Hypothesis 1: Perceived Mental Illness Stigma as a Barrier to Help-Seeking

This study is first to have adapted the Perceived Stigma subscale of the PSBCPP for use across ethno-racial groups. Consistent with earlier research suggesting MIS is a greater impediment to treatment seeking in ethno-racial minority populations (Nadeem et al., 2007), regression analyses confirmed that Middle Eastern participants perceived stigma as a greater barrier to accessing professional support than persons identifying as White. This effect remained even after controlling for differences in level of familiarity with mental illness and social desirability. As expected, no differences were found between the Middle Eastern and the Black or South Asian groups. Results converge with findings from the demographic questionnaire, which showed that White participants were about 10% more likely to have sought help for a mental health condition than participants identifying as Middle Eastern. Further, roughly twice as many White participants had sought help for any reasons relative to those identifying as Middle Eastern. Along with earlier research suggesting that Middle Eastern Canadians are quite vulnerable to psychological distress (Amer & Hovey, 2012; Rousseau et al., 2011), the present study's findings underscore the need to address MIS so that members of this community can seek needed support.

Hypothesis 2: Personal Mental Illness Stigma

Quantitative methods were used to compare prejudicial attitudes and social distance, a proxy for behavioural discrimination, across ethno-racial groups.

Prejudicial attitudes. Seven prejudicial attitudes were assessed using the Mental Illness Stigma Scale, and hierarchical regression analyses suggest that Middle Eastern persons differ from other ethno-racial groups along only one of these. Consistent with hypothesis 2, results suggest that Middle Eastern participants experience greater anxiety and worry in relation to PABMI, than participants identifying as White. This effect remained even after controlling for social desirability and level of familiarity with mental illness. While the stereotype that PABMI are dangerous and to be feared is prevalent in the literature across both White and Non-White groups (see for instance Corrigan et al., 2009; Gaiha et al., 2014; Martin et al., 2009), these findings support research suggesting this belief may be more prominent among certain ethno-racial groups (Anglin et al., 2006; Rao et al., 2007), including those who identify as Middle Eastern.

Further, findings provide an interesting contrast to suggestions made by Aldhalimi and Sheldon (2012), namely that individualistic values promoted in North American culture may be responsible for the perception of dangerousness of PABMI among Middle Eastern Americans. While individualistic ideals may exacerbate perceptions of danger, results of the present study suggest that there are other factors inherent to Middle Eastern culture that contribute to and shape these beliefs as well. Perhaps findings reflect the broader definition of what it means for PABMI to "cause harm" in the Middle Eastern context. As highlighted by others (Coker 2005), persons in the Middle East often endorse worries that PABMI may not only be capable of physical aggression, but may also be able to transmit their illness through modeling or through close interactions (as might occur with a virus for example).

Findings did not support the hypothesis that Middle Eastern persons endorse higher levels of personal stigma on the MISS Relationship Disruption subscale. In fact, while differences between the Middle Eastern and White groups were initially apparent along this subscale, this difference no longer reached significance after accounting for participants' level of familiarity with mental illness. Level of familiarity with mental illness varied substantially across groups, with nearly twice as many White participants reporting a history of mental illness relative to all other groups. Given this finding, in conjunction with previous research suggesting that increased familiarity with mental illness is associated with reduced stigma (see Alexander & Link, 2003; Corrigan, Edwards, Green, Diwan, & Penn, 2001; Corrigan, Green, Lundwin, Kubiak, & Penn, 2001), it was especially important to control for this variable. Results lend support to anti-stigma campaigns that include contact with a person affected by mental illness as part of their intervention (Corrigan & Fong, 2014). Further, while this result was unexpected, it is reasonable to assume that values related to inclusivity and hospitality among Middle Eastern persons may have buffered against negative attitudes they might have otherwise had towards PABMI in the context of a relationship, especially among individuals who know of a close other affected by mental illness.

Also of interest were scales along which participants appeared to respond similarly across ethno-racial groups. For instance, while Middle Eastern participants were most likely to endorse stereotypes about the visibility of mental illness, regression analyses yielded no significant differences with other groups along this scale. In fact, the MISS Visibility subscale scores were higher than all other subscales scores across all groups. A similar pattern was observed for the MISS-Recovery scale, which figured among the lowest subscale score for each group, and was not found to differ significantly across them. Regression analyses similarly failed to show differences across groups along the MISS-Professional Efficacy scale.

Taken together, results suggest that persons of Middle Eastern identification may endorse some, but not all, prejudicial attitudes about PABMI at a higher rate than persons identifying as White. Findings contribute to the emerging literature suggesting that ethnic minority groups may not necessarily stigmatize PABMI more, but differently than mainstream samples (Anglin et al., 2006; Knettel, 2016; Mokkarala et al., 2016). Indeed, it appears that ethno-racial values and ideals may differentially affect how MIS is expressed across groups.

Discrimination. Another unexpected finding related to ethno-racial differences in social distance. Social distance mean scores were highest in the Middle Eastern group, and lowest in the White group. As before, regression analyses initially identified a significant difference in the scores between these groups. However, the effect was again rendered negligible upon adding degree of familiarity with mental illness to the model. Findings have implications for interventions which aim to reduce stigma in Middle Eastern communities. They suggest that exposure to PABMI may be lacking, relative to other ethno-racial groups in Canada, and that increased exposure with this population may help reduce MIS. Additional research is also needed to determine why exposure to this group is limited in this ethno-racial context. Researchers have speculated that social norms related to privacy, concealing emotions, and maintaining problems within the family unit may deter PABMI in this group from being open about their experience with others (Abdullah & Brown, 2011; Hakim-Larson et al., 2007; Soheilian & Inman, 2009), but this hypothesis has yet to be tested.

A difference was also observed between the Black and Middle Eastern groups, wherein Black participants reported significantly less desire for social distance than the reference group. In contrast to findings described above, this difference remained significant even after level of familiarity with mental illness was added to the regression equation. These quantitative results converged with findings from the content analysis, which show that Black participants were the least likely of all groups to use terms relating to social distance in describing mental illness stigma in their community.

These findings appear at odds with previous literature that has consistently identified social distance as a form of MIS among participants identifying as Black (Broussard, Goulding, Talley, & Comptom, 2012; Wang et al., 2013). One hypothesis that might account for this discrepancy is that members of the Black group in the current study were more often first generation Canadian, and members of the Middle Eastern group were predominantly first generation immigrant. Hence, members of the Black group are likely to have had greater exposure to Western ideals and norms, which attempt to discourage discrimination against mental illness. Future research should incorporate measures of acculturation as well as an estimate of the number of years participants lived in North America to further explicate these findings.

Hypothesis 3: Ethno-Racial Identification and Mental Illness Stigma

Partial support was found for the study’s third hypothesis. Consistent with other research (Mivelle & Constantine, 2007; Shea & Yeh, 2008), identification with Middle Eastern values and norms was positively associated with some, but not all, subscales relevant to the expression of MIS (e.g., only the SDS and the MISS-Anxiety and Relationship Disruption subscales). This finding lends support for the notion that ethno-racial minority identification may be associated with increased prevalence of only certain forms of prejudice and discrimination, rather than with MIS as a whole. Contrary to hypothesis 3, however, the ethno-racial identification by group interaction was not significant at alpha of 0.01. However, a trend towards significance was observed for the MISS-Anxiety subscale and the SDS outcome variables, wherein ethno-racial identification in the Middle Eastern group was associated with increased MIS ($\text{slope}_{\text{Anxiety}} = 0.32$ and $\text{slope}_{\text{SDS}} = 0.14$), while ethno-racial identification in the White group demonstrated little relationship with MIS ($\text{slope}_{\text{Anxiety}} = 0.06$ and $\text{slope}_{\text{SDS}} = 0.03$).

Nature of Perceived Public Mental Illness Stigma

Results of this mixed method study converged on the finding that MIS is expressed across ethno-racial groups. Nearly 60% of participants acknowledged that it exists in their community. Similar findings were observed upon review of the content analysis. Specifically, when asked to provide words or phrases used to describe PABMI, over 60% of all terms provided within each group were negatively valenced. It is important to note that question #1 did not ask participants to identify stigmatizing terms or phrases, yet most responses nonetheless denoted some level of stigma. Further, open-ended question #1 was administered prior to any of the stigma scales to avoid possible priming effects. Therefore, across methods, results appear to converge on the idea that mental illness is perceived negatively across all ethno-racial groups.

Qualitative data appeared to fall within three overarching categories, namely, beliefs, experiences (which were typically emotionally laden) and behaviours. This lends partial support for the framework proposed by Corrigan (2000), wherein stereotypes, prejudice and discrimination constitute different components of stigma. Note, the author made efforts to interpret the data in an objective manner by withholding a full review of the mental illness stigma literature until after completion of the content analysis, and by explicitly noticing biases in her interpretations and attempting to put these aside (Glaser & Strauss, 1967). However, the author acknowledges that her familiarity with treatment frameworks based on thoughts, emotions, and behaviours, may have nonetheless influenced the coding structure.

Results across both the quantitative and qualitative components of the mixed methods approach also converged on the idea that there are both important similarities, and differences, in the nature of MIS across groups. In the quantitative analysis, results showed that persons identifying as Middle Eastern express similar levels of MIS on most subscales of the MISS, namely, the Visibility, Treatability, Recovery, Professional Efficacy, Relationship Disruption and Hygiene subscales, after accounting for the effect of level of familiarity with mental illness on the dependent variable. However, notable differences were found on the Anxiety subscale of the MISS as well as the Social Distance Scale. The content analysis also revealed that persons identifying as Middle Eastern express mental illness stigma in a similar way to persons identifying as White along some, but not all, themes. Terms describing PABMI as different, crazy and inadequate were among the top three themes that emerged across all ethno-racial groups. However, persons identifying as White were more likely to highlight how affected individuals are "different," than were members of the Middle Eastern, South Asian and Black groups. Members of the White group were also most likely to identify terms falling in this category first, while members of all other groups, including persons of Middle Eastern origin, listed terms related to the word “crazy” first. Terms subsumed within the “different” category appeared less stigmatizing than those that fell within the “crazy” or “inadequate” themes. While ethno-racial groups appear more similar, than different, in terms of the expression of mental illness stigma, the observed discrepancy between White (using the term “different”) and non-White groups (using terms like “crazy” or “inadequate”) may reflect movements within mainstream society to discourage blatant expressions of mental illness stigma.

Supplementing the quantitative analyses with qualitative inquiry also served to expand our understanding of MIS in the Middle Eastern Canadian context. Specifically, two stereotypes that are not adequately captured by existing quantitative measures were identified as relevant to members of this group through the content analysis. These were, terms related to PABMI as a failure, and terms related to PABMI as a nuisance. This may reflect cultural norms in Middle Eastern society related to social obligations, and family responsibility (Abdullah & Brown, 2011). There is an expectation in this culture that all members of a family contribute to the wellbeing of the unit by working, by caring for children or elderly members, or by engaging in other household responsibilities. PABMI may be perceived as failures if they are unable to contribute in this way. Moreover, if they do not meet social role obligations and expectations, PABMI may be perceived as burdens as others are likely to feel obliged to care for them and to take on any role they are unable to fulfil (Hakim-Larson, Kamoo, Nassar-McMillan, & Porcerelli, 2007). Indeed, in a study by Coker (2005), Egyptian participants who maintained the belief that PABMI are failures, expressed a moral or religious obligation to maintain contact with and support the affected individual.

One point of divergence between the quantitative and qualitative data relates to the idea that PABMI are dangerous. As noted above, quantitative findings showed that fears and anxiety about PABMI were significantly more problematic in Middle Eastern relative to White participants. In the content analysis, a "harmful" category appeared to capture related ideas (see Table 18). For instance, participants described PABMI as "violent", "aggressive" and "dangerous." Consistent with the quantitative findings described here, the qualitative results showed that Middle Eastern participants were more likely to endorse terms falling within this category than members of other groups. However, these analyses also revealed that this category was not frequently cited. In fact, Middle Eastern persons were more likely to use terms like crazy, inadequate, invalid, failure, nuisance and different to describe PABMI than they were too imply that members of this group may cause harm. This suggests that while beliefs around dangerousness may be more prevalent in Middle Eastern relative to other ethno-racial groups, they are not among the most characteristic of the expression of MIS in this population.

Comparatively fewer phrases or terms were coded as experiences and behaviours, relative to terms that were coded as stereotypes, a finding that was not surprising given the open-ended questions probed for the latter category specifically. Nonetheless, three types of behaviours appeared at reasonable frequency across groups, namely, social distance, attacks, and invalidation. Overall, South Asian participants described the most discrimination across all categories. Consistent with quantitative findings, the proportion of Middle Eastern and White participants endorsing social distance in their community did not appear to differ substantially. Both groups similarly reported comparable proportions of attacking behaviour and invalidation.

While social distance and verbal affronts are often measured in MIS assessments, invalidating behaviour is not. Yet, according to the qualitative findings in the present study, invalidation represents one of the top three expressions of discrimination across all ethno-racial groups. Findings are consistent with two other qualitative studies that have linked the experience of invalidation to MIS (Gonzales, Davidoff, Nadal, Yanos, 2015; Liggins & Hatcher, 2005; see also Bonsack, 2014, for a similar discussion).

Implications of Research Findings

Findings highlight the following: a) that MIS exists in the Middle Eastern Canadian context; b) that prejudicial attitudes and stereotypical beliefs about PABMI as dangerous, inadequate, or a failure are prevalent in this community; c) that these and other expressions of MIS may act as a deterrent to treatment for PABMI; and d) that increased contact with PABMI is likely to reduce MIS in the community. Taken together, one may conclude that reducing stigma in the interest of facilitating a willingness to access treatment among affected members may be achieved by countering faulty stereotypical beliefs and prejudicial attitudes towards PABMI, and increasing exposure to PABMI in the Middle Eastern Canadian context. Specifically, anti-stigma programs should incorporate contact with PABMI and highlight their strength and courage in addressing issues related to their mental health. Interventions may also showcase their on-going efforts and successes in meeting family obligations, whether throughout their period of illness or following treatment. Presenting statistics that debunk the myth that PABMI are more dangerous than non-affected members may also be important. Clinicians working with Middle Eastern Canadians and refugees should be especially attentive to the worries PABMI may have about being labelled as inadequate, a failure or dangerous, and work with them to support their inner sense of strength, value, success and resilience.

While MIS remains pervasive and problematic, it is noteworthy to highlight that a subset of the study participants reported that change is on the horizon. In response to the second qualitative question, many participants acknowledged that stigma is pervasive among individuals of older generations, and especially among those who were raised in countries where mental illness is poorly understood. However, some participants remarked that they, along with other members of their generation, are making efforts to fight stigma by increasing mindfulness of the language they use, and by engaging in an open dialogue on the topic. This is hopeful news that sets a precedent to continue supporting youth in both learning about mental illness, and in developing the tools to fight stigma.

Limitations

A number of limitations to the current study are noted. For instance, while the author was deliberate in attempting to collect a sizable sample across several ethno-racial groups, the participant pool was mainly restricted to first year university students enrolled in a psychology course. This approach had the advantage of minimizing the effect of differences in mental health literacy, which are known to influence reported levels of MIS (Holman, 2015). However, it also limited the generalizability of the findings across different education levels and age groups.

Computer administration of the study facilitated the collection of a large sample, which was necessary given the number of groups under examination, and given the magnitude of the effect of ethno-racial group identification on the dependent variables was expected to be small. A consequence of adopting this approach, however, was that the author was unable to ensure that participants were adequately attending to each task. Although an attempt was made to eliminate participants from the sample who were likely to have completed the study haphazardly, additional steps may have been useful in further mitigating this possibility. For instance, the incorporation of the Conscientious Responders Scale (Marjanovic, Struthers, Cribbie, &

Greenglass, 2014) may have assisted in the identification of participants who were not adequately attending to each task.

A second disadvantage to online administration of the survey battery, was that the author was not able to probe for additional information or clarity when respondents commented on their perception of MIS in their ethno-racial community. In-person interviews, while resource intensive, would have enhanced the richness of the qualitative information across groups.

Several of the measures used in the current study were developed and normed without consideration of ethnicity or race. Attempts were made to acquire culturally sensitive measures, yet only one was found (i.e., the cultural adaptation of the Marlowe-Crowne Social Desirability Scale). While some scales have been translated into different languages (for instance, the Internalized Stigma of Mental Illness Scale; Sibitz et al., 2013; Tanabe, Hayashi, & Ideno, 2016), none have assessed whether the items are effective in capturing the experience of mental illness stigma as it exists among persons identifying with different races or ethnicities.

The current study compared participants on the basis of their primary ethno-racial identification. While this was necessary to achieve an adequate sample size across groups for the analyses, finer distinctions may have allowed for a more nuanced understanding of the impact of culture on MIS. Indeed, it is acknowledged that cultural values, norms, and ideals can vary significantly within any one racial group (e.g., when comparing persons identifying as Black African and Black Caribbean). Further, a single participant may identify with more than one ethnic group. Indeed, many of the ethnic minority participants in the present sample, identified with both the values of their primary ethno-racial group and with the values of mainstream White North American culture. Although it was not possible to examine the impact of both ethno-racial and mainstream identification on the experience of MIS in the current study, this is an important question which should be addressed in future research.

Content analysis is sometimes completed by two independent coders to enhance the validity of findings (Graneheim & Lundman, 2004). Volunteers from each of the ethno-racial groups did review emergent themes identified by the author. However, the study would have been strengthened through independent coding of the data by four different reviewers, one from each ethno-racial group, followed by an examination of the resulting four coding schemes to determine whether agreement in the coding structure is possible, or whether MIS as it exists across groups is fundamentally different.

Additionally, the internal consistency of two of the subscales used in the present study was low. The subscales in question were the Treatability subscale of the MISS and the Denial subscale of the adapted version of the Marlowe-Crowne Social Desirability Scale. This finding was not entirely unexpected given the number of items in these scales was low. The author acknowledges that this may have limited the accuracy of the findings presented in this study.

Finally, the author acknowledges that throughout the study, participants were asked about their perception and experience of stigma towards "mental illness" generally, instead of towards any specific mental illness (e.g., schizophrenia, major depressive disorder, etc.) This was done intentionally to solicit opinions about not only complex mental illness but also about less impairing psychological disorders, which are sometimes overlooked in the MIS literature. Nonetheless, the author acknowledges that the absence of a clear description of what is meant by "mental illness" may have affected the results. For instance, if participants in the Middle Eastern group thought of acute psychosis when responding to study items, while participants in the White group thought of mild forms of depression or anxiety, we might expect differences in self-reported personal and perceived public stigma across ethno-racial groups. Though it may be worthwhile to continue examining stigma towards “mental illness” in general, future research may consider asking participants to describe what comes to mind when they think of someone with a mental illness, so that this confound can be examined and controlled.

Future Directions

Future research may wish to replicate this study while addressing some of its limitations. For example, researchers may choose to employ an alternative sampling approach that ensures diversity in education levels and age groups. This would allow for an improvement in the generalizability of the findings. Study protocols administered online might also incorporate a measure of participant conscientiousness.

Additional research on the topic of MIS among Middle Eastern Canadians is sorely warranted. As previously noted, future studies may benefit from the simultaneous consideration of the effect of identification with Middle Eastern culture and acculturation to mainstream society. A comparison of first versus second generation immigrants may also be of theoretical interest. Another possibility would be to examine various cultures within the Middle Eastern Canadian community to determine whether differences (if any) are theoretically meaningful to our understanding of MIS, or of practical utility in informing anti-stigma campaigns. Further, while the present study focused on Middle Eastern Canadians, a review of the literature revealed a paucity of research examining MIS in South Asian communities. Findings in the present study suggest that MIS is pervasive and problematic in this community, but a more focussed investigation is needed.

The current study developed a coding scheme for MIS upon examination of the entire sample, independent of group membership. Future researchers may wish to adopt an alternative approach wherein coding structures are developed upon examination of each group separately. A comparison of the coding scheme developed using these complementary approaches may prove beneficial in highlighting similarities and differences in the way MIS is expressed across groups.

Further, there is a need to evaluate whether current measures of MIS are appropriate for use across ethno-racial divides. Researchers may begin by conducting focus groups with various ethnic or racial communities to determine whether their experience of MIS is adequately captured by items in existing measures. Indeed, in the current study, qualitative findings highlighted several themes related to MIS that were not adequately captured by the Mental Illness Stigma Scale (i.e., PABMI as different, crazy, inadequate, a failure or a nuisance). Where needed, adaptations to existing measures or the development of new measures may follow. New measures may also benefit from the inclusion of items that capture more subtle forms of MIS identified here, such as invalidation.

Finally, as highlighted by others (Coker, 2005; Corrigan, 2000; Mokkarala et al., 2016), a more nuanced approach to understanding the association between stereotypes and various forms of discrimination is needed. While the nature of stereotypes, prejudice, and discrimination may be similar across groups, it is likely that the association between these aspects of MIS will differ (e.g., blame → support; blame → withdrawal). These relationships are important when considering the impact of MIS on the affected individual.

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Table 1

Correlation Matrix for the Mental Illness Stigma Outcome Variables and Covariates

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. PSBCPP - Perceived Stigma subscale	1	.28**	.13*	.25**	.14*	.15*	.13*	-.06	.26**	.13*	-.15*	.14*	.05	-.07	.02
2. MISS - Anxiety		1	.34**	.76**	.65**	.53**	.44**	-.01	.88**	.52**	-.16^{+}	-.10*	-.16**	-.29**	.18
3. MISS - Visibility			1	.37**	.39**	.33**	.17**	-.11^{+}	.57**	.22**	.00	.11^{+}	.09	-.03	.05
4. MISS - Relationship disruption				1	.70**	.63**	.49**	.04	.90**	.57**	-.04	-.05	-0.7	-.22**	.13*
5. MISS - Hygiene					1	.53**	.50**	.00	.82**	.42**	-.01	-.12^{+}	-.11^{+}	-.25**	.08
6. MISS - Recovery						1	.55**	.10^{+}	.71**	.38**	-.15*	-.07	-.14*	-.08	.05
7. MISS - Treatability							1	.36**	.61**	.35**	-.09	-.27**	-.27**	-.19**	-.01
8. MISS - Professional Efficacy								1	.04	.17**	-.08	-.31**	-.30**	-.01	-.07
9. MISS - Total score ^{a}									1	.56**	-.10^{+}	-.11^{+}	-.15*	-.24**	.13^{+}
10. Social Distance Scale										1	-.05	-.16*	-.16*	-.26**	.04
11. SDS - Denial											1	.03	.51**	-.13*	-.14*
12. SDS - Enhancement												1	.88**	.06	.17**
13. SDS - Total													1	-.02	.08
14. LOCR														1	-.02
15. VIA															1

Note. PSBCPP = Perceived Stigma and Barriers to Care for Psychological Problems, MISS = Mental Illness Stigma Scale; SDS = Social Desirability Scale, LOCR = Level of Contact Report; VIA = Vancouver Index of Acculturation; $^{+}$ $p < .05$ (2-tailed); * $p < .01$ (2-tailed); ** $p < .001$ (2-tailed); ^{a} excludes items related to the Professional Efficacy subscale.

Table 2

Vancouver Index of Acculturation Mean Scale Scores and Correlations across Groups

	White	Black	South Asian	Middle Eastern
Among persons not identifying as North American				
Mean VIA-heritage subscale, (std. dev.)	7.01 (1.20)	6.90 (1.55)	6.72 (1.33)	6.01 (1.59)
Mean VIA-mainstream subscale, (std. dev.)	7.41 (1.10)	6.75 (1.24)	6.91 (1.18)	6.32 (1.15)
VIA- heritage mainstream correlation	0.45**	0.28*	0.12	-0.10
n	73	99	104	110
Among persons identifying as North American				
Mean VIA-heritage subscale, (std. dev.) [b]	6.70 (1.73)	6.13 (1.96)		
Mean VIA-mainstream subscale, (std. dev.) [a]	7.08 (1.65)	7.52 (1.23)		
VIA- heritage mainstream correlation [b]	0.52^{+}	-0.43		

Note. $^{+}$ $p < .05$; * $p < .01$; ** $p < .001$. [a] $n_{\text{white}} = 32$; $n_{\text{black}} = 5$; [b] $n_{\text{white}} = 22$ and $n_{\text{black}} = 4$, as 11 or 29.7% of participants identifying as North American could not identify a heritage group that was not North American.

Table 3

Distribution of Responses to Open-ended Question #2 Across Ethno-racial Groups

	White		Black		South Asian		Middle Eastern	
	n	Percent	*n*	Percent	*n*	Percent	*n*	Percent
Total participants per group	105		105		104		110	
Response to the question "Does mental illness stigma exist in your ethno-racial community?"								
No	21	20.0%	19	18.1%	15	14.4%	28	25.5%
Yes	67	63.8%	68	64.8%	75	72.1%	65	59.1%
Prefer not say	17	16.2%	18	17.1%	14	13.5%	17	15.5%
Provided a response to open-ended question #2, namely, "How is mental illness stigma expressed in your ethno-racial community?"	42	40.0%	34	32.4%	50	48.1%	42	38.2%

Table 4

Sample Demographics

	White	Black	South Asian	Middle Eastern	Total Sample
n	105	105	104	110	424
Country of Birth					
Canada	84.76%	60.00%	50.96%	23.64%	54.48%
United States	0.95%	4.76%	0.96%	0.91%	1.89%
Not known	0.00%	0.95%	0.00%	0.00%	0.24%
Other (i.e., outside North America)	14.29%	34.29%	48.08%	75.45%	43.40%
Age moved to Canada or the USA					
Born in Canada or the USA	85.71%	64.76%	51.92%	24.55%	56.37%
Between 1 and 5 years	3.81%	4.76%	20.19%	12.73%	10.38%
Between 6 and 10 years	2.86%	4.76%	10.58%	16.36%	8.73%
Between 11 and 14 years	1.90%	7.62%	7.69%	11.82%	7.31%
15 years or older	5.71%	18.10%	9.62%	34.55%	17.22%
Parents born in Canada or the USA					
0	23.81%	95.24%	97.12%	97.27%	78.54%
1	16.19%	0.95%	1.92%	2.73%	5.42%
2	60.00%	2.86%	0.00%	0.00%	15.57%
Not known	0.00%	0.95%	0.96%	0.00%	0.47%
Grandparents born in Canada or the USA					
0	54.29%	96.19%	96.15%	99.09%	86.56%
1	7.62%	0.95%	0.96%	0.00%	2.36%
2	16.19%	1.90%	0.00%	0.00%	4.48%
3	7.62%	0.95%	0.00%	0.00%	2.12%
4	12.38%	0.00%	0.96%	0.00%	3.30%
Not known	1.90%	0.00%	1.92%	0.91%	1.18%
Religion					
Agnostic	18.10%	5.71%	1.92%	8.18%	8.49%
Atheist	3.81%	0.95%	0.96%	5.45%	2.83%
Christian	60.95%	74.29%	3.85%	16.36%	38.68%
Hindu	0.00%	0.00%	23.08%	0.00%	5.66%
Jewish	5.71%	0.95%	0.00%	4.55%	2.83%
Muslim	0.95%	16.19%	43.27%	54.55%	29.01%
Sikh	0.00%	0.00%	24.04%	0.00%	5.90%
None	7.62%	1.90%	1.92%	8.18%	4.95%
Other	2.86%	0.00%	0.96%	2.73%	1.65%

Table 5

Experience with Mental Illness and Mental Health Services

	White	Black	South Asian	Middle Eastern	Total Sample
n	105	105	104	110	424
Experience with MI					
Lives with someone with MI or has a relative with MI (%)	28.57	27.62	21.15	27.27	26.18
(*n*)	30	29	22	30	111
Personally experienced MI (%)	40.00	22.86	21.15	20.00	25.94
(*n*)	42	24	22	22	110
Sought help					
For a MI (*n*)	27	14	12	12	65
For other mental health concerns (*n*)	8	6	7	6	27
Sought help for any reason (%)	33.33	19.05	18.27	16.36	21.70
Never sought help for any reason (%)	58.10	72.38	74.04	76.36	70.28
Prefer not say whether ever sought help for any reason (%)	8.57	8.57	7.69	7.27	8.02

Note. MI = Mental illness. Percentages listed are relative to ethno-racial group.

Table 6

Mean Scores and Standard Deviations by Ethno-Racial Group for Outcome Variables and Covariates

	White		Black		South Asian		Middle Eastern		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Mental Illness Stigma Outcome Variables										
PSBCPP - Perceived Stigma subscale	2.65	1.23	2.98	1.27	3.26	1.22	3.18	1.15	3.02	1.24
MISS – Total score	62.11	23.29	67.77	26.06	78.10	29.05	72.31	26.11	70.03	26.72
Anxiety subscale	2.10	1.20	2.54	1.30	3.06	1.35	2.69	1.30	2.60	1.33
Visibility subscale	3.60	1.37	3.35	1.29	3.67	1.37	3.74	1.24	3.59	1.32
Relationship Disruption subscale	2.44	1.25	2.57	1.28	2.96	1.42	2.85	1.32	2.71	1.33
Hygiene subscale	2.02	1.16	2.28	1.33	2.58	1.49	2.45	1.25	2.33	1.32
Recovery subscale	2.14	1.25	2.06	1.21	2.58	1.55	2.32	1.29	2.28	1.34
Treatability subscale	2.16	1.08	2.59	1.14	2.74	1.31	2.60	1.20	2.52	1.20
Professional Efficacy subscale	2.94	1.53	3.23	1.74	3.03	1.49	3.27	1.68	3.12	1.62
SDS	2.43	1.05	2.52	0.91	2.71	0.94	2.83	1.00	2.62	0.99
Covariates [a]										
Level of Contact Report rank score	5.10	2.03	4.19	2.14	3.80	2.26	4.03	2.16	4.28	2.19
Social Desirability Scale										
Enhancement subscale	4.09	0.51	3.84	0.76	3.99	0.54	3.91	0.69	3.96	0.64
Denial subscale	3.18	0.83	3.31	0.76	3.17	0.74	3.34	0.83	3.25	0.80

Note. PSBCPP = Perceived Stigma and Barriers to Care for Psychological Problems. MISS = Mental Illness Stigma Scale. SDS = Social Distance Scale. [a] Mean scores and standard deviations for the Vancouver Index of Acculturation are presented in Table 2.

Table 7

Hierarchical Regression Analysis, PSBCPP - Perceived Stigma Subscale

Independent Variables	ΔR^2	*b*	SE *b*
Step 1	0.04 **		
Constant		3.02 **	0.06
CSDS-Denial (centered at mean)		-0.24 *	0.07
CSDS-Enhancement (centered at mean)		0.29 *	0.09
Step 2	0.04 **		
Constant		3.22 **	0.12
CSDS-Denial (centered at mean)		-0.25 **	0.07
CSDS-Enhancement (centered at mean)		0.33 **	0.09
White [a]		-0.63 **	0.17
Black [a]		-0.18	0.17
South Asian [a]		0.02	0.17
VIA - primary identification (centered at mean)		0.01	0.04
Step 3	0.00		
Constant		3.21 **	0.12
CSDS-Denial (centered at mean)		-0.26 **	0.08
CSDS-Enhancement (centered at mean)		0.33 **	0.09
White [a]		-0.60 **	0.17
Black [a]		-0.17	0.17
South Asian [a]		-0.01	0.17
VIA - primary identification (centered at mean)		0.00	0.04
Level of Contact Report (centered at mean)		-0.04	0.03
Step 4	0.01		
Constant		3.27 **	0.12
CSDS-Denial (centered at mean)		-0.26 **	0.08
CSDS-Enhancement (centered at mean)		0.36 **	0.10
White [a]		-0.64 **	0.18
Black [a]		-0.21	0.17
South Asian [a]		-0.05	0.17
VIA - primary identification (centered at mean)		0.09	0.07
Level of Contact Report (centered at mean)		-0.03	0.03
Interaction - VIA primary identification (centered at mean) and White vs. Middle Eastern		-0.14	0.11
Interaction - VIA primary identification (centered at mean) and Black vs. Middle Eastern		-0.15	0.11
Interaction - VIA primary identification (centered at mean) and South Asian vs. Middle Eastern		-0.10	0.11
Total R^2	0.10 **		
n	419		

Note. PSBCPP – Perceived Stigma and Barriers to Care for Psychological Problems; CSDS = Culturally adapted Social Desirability Scale; VIA = Vancouver Index of Acculturation; [a] Relative to Middle Eastern reference group; [+] $p < .05$; * $p < .01$, ** $p < .001$.

Table 8

Hierarchical Regression Analysis, MISS Total Score [b]

Independent Variables	ΔR^2	*b*	SE *b*
Step 1	0.02 $^{+}$		
Constant		69.23**	1.31
CSDS-Denial (centered at mean)		-3.04	1.64
CSDS-Enhancement (centered at mean)		-4.40^{+}	2.05
Step 2	0.07 **		
Constant		74.56**	2.54
CSDS-Denial (centered at mean)		-2.26	1.61
CSDS-Enhancement (centered at mean)		-5.19^{+}	2.04
White [a]		-13.03**	3.65
Black [a]		-7.93^{+}	3.64
South Asian [a]		2.69	3.64
VIA - primary identification (centered at mean)		3.11**	0.89
Step 3	0.04**		
Constant		73.93**	2.49
CSDS-Denial (centered at mean)		-3.21^{+}	1.59
CSDS-Enhancement (centered at mean)		-4.63^{+}	2.00
White [a]		-10.33*	3.63
Black [a]		-7.16^{+}	3.56
South Asian [a]		2.05	3.57
VIA - primary identification (centered at mean)		2.86*	0.88
Level of Contact Report (centered at mean)		-2.54**	0.59
Step 4	0.00		
Constant		74.99 **	2.62
CSDS-Denial (centered at mean)		-3.10	1.60
CSDS-Enhancement (centered at mean)		-4.19^{+}	2.03
White [a]		-10.94*	3.73
Black [a]		-8.01^{+}	3.64
South Asian [a]		1.00	3.66
VIA - primary identification (centered at mean)		4.45*	1.53
Level of Contact Report (centered at mean)		-2.53 **	0.59
Interaction - VIA primary identification (centered at mean) and White vs. Middle Eastern		-2.98	2.42
Interaction - VIA primary identification (centered at mean) and Black vs. Middle Eastern		-2.35	2.25
Interaction - VIA primary identification (centered at mean) and South Asian vs. Middle Eastern		-2.46	2.46
Total R^2	0.14 **		
n	406		

Note. MISS = Mental Illness Stigma Scale; CSDS = Culturally adapted Social Desirability Scale; VIA = Vancouver Index of Acculturation; [a] Relative to Middle Eastern reference group; [b] Omits items related to the Professional Efficacy subscale; $^{+}$ $p < .05$; * $p < .01$, ** $p < .001$.

Table 9

Hierarchical Regression Analysis, MISS Anxiety Subscale

Independent Variables	ΔR^2	*b*	SE *b*
Step 1	0.03 *		
Constant		2.60**	0.06
CSDS-Denial (centered at mean)		-0.25*	0.08
CSDS-Enhancement (centered at mean)		-0.20$^+$	0.10
Step 2	0.11 **		
Constant		2.83**	0.12
CSDS-Denial (centered at mean)		-0.21*	0.08
CSDS-Enhancement (centered at mean)		-0.24$^+$	0.10
White [a]		-0.79**	0.18
Black [a]		-0.35$^+$	0.18
South Asian [a]		0.19	0.17
VIA - primary identification (centered at mean)		0.19**	0.04
Step 3	0.06**		
Constant		2.79**	0.12
CSDS-Denial (centered at mean)		-0.26**	0.08
CSDS-Enhancement (centered at mean)		-0.21$^+$	0.10
White [a]		-0.62**	0.17
Black [a]		-0.30	0.17
South Asian [a]		0.16	0.17
VIA - primary identification (centered at mean)		0.18**	0.04
Level of Contact Report (centered at mean)		-0.15**	0.03
Step 4	0.01		
Constant		2.88 **	0.12
CSDS-Denial (centered at mean)		-0.25 **	0.08
CSDS-Enhancement (centered at mean)		-0.18	0.1
White [a]		-0.68 **	0.18
Black [a]		-0.38 $^+$	0.17
South Asian [a]		0.07	0.17
VIA - primary identification (centered at mean)		0.32 **	0.07
Level of Contact Report (centered at mean)		-0.15 **	0.03
Interaction - VIA primary identification (centered at mean) and White vs. Middle Eastern		-0.26 $^+$	0.12
Interaction - VIA primary identification (centered at mean) and Black vs. Middle Eastern		-0.19	0.11
Interaction - VIA primary identification (centered at mean) and South Asian vs. Middle Eastern		-0.18	0.12
Total R^2	0.21 **		
n	418		

Note. MISS = Mental Illness Stigma Scale; CSDS = Culturally adapted Social Desirability Scale; VIA = Vancouver Index of Acculturation; [a] Relative to Middle Eastern reference group; $^+$ $p < .05$; * $p < .01$, ** $p < .001$.

Table 10

Hierarchical Regression Analysis, MISS Relationship Disruption Subscale

Independent Variables	ΔR^2	*b*	SE *b*
Step 1	0.00		
Constant		2.70**	0.07
CSDS-Denial (centered at mean)		-0.07	0.08
CSDS-Enhancement (centered at mean)		-0.10	0.10
Step 2	0.05**		
Constant		2.95**	0.13
CSDS-Denial (centered at mean)		-0.03	0.08
CSDS-Enhancement (centered at mean)		-0.16	0.10
White [a]		-0.55*	0.19
Black [a]		-0.45^{+}	0.18
South Asian [a]		-0.02	0.18
VIA - primary identification (centered at mean)		0.16**	0.04
Step 3	0.03**		
Constant		2.92**	0.13
CSDS-Denial (centered at mean)		-0.08	0.08
CSDS-Enhancement (centered at mean)		-0.13	0.10
White [a]		-0.42^{+}	0.19
Black [a]		-0.42^{+}	0.18
South Asian [a]		-0.05	0.18
VIA - primary identification (centered at mean)		0.14*	0.04
Level of Contact Report (centered at mean)		-0.12**	0.03
Step 4	0.00		
Constant		2.96 **	0.13
CSDS-Denial (centered at mean)		-0.07	0.08
CSDS-Enhancement (centered at mean)		-0.11	0.10
White [a]		-0.43^{+}	0.19
Black [a]		-0.44^{+}	0.19
South Asian [a]		-0.10	0.18
VIA - primary identification (centered at mean)		0.21*	0.08
Level of Contact Report (centered at mean)		-0.12**	0.03
Interaction - VIA primary identification (centered at mean) and White vs. Middle Eastern		-0.15	0.12
Interaction - VIA primary identification (centered at mean) and Black vs. Middle Eastern		-0.12	0.11
Interaction - VIA primary identification (centered at mean) and South Asian vs. Middle Eastern		-0.03	0.12
Total R^2	0.09 **		
n	415		

Note. MISS = Mental Illness Stigma Scale; CSDS = Culturally adapted Social Desirability Scale; VIA = Vancouver Index of Acculturation; [a] Relative to Middle Eastern reference group; $^{+}$ $p < .05$; * $p < .01$, ** $p < .001$.

Table 11

Hierarchical Regression Analysis, MISS Hygiene Subscale

Independent Variables	Δ R^2	*b*	SE *b*
Step 1	0.01		
Constant		2.33**	0.06
CSDS-Denial (centered at mean)		0.00	0.08
CSDS-Enhancement (centered at mean)		-0.25^{+}	0.10
Step 2	0.04*		
Constant		2.52**	0.13
CSDS-Denial (centered at mean)		0.02	0.08
CSDS-Enhancement (centered at mean)		-0.27*	0.10
White [a]		-0.51*	0.18
Black [a]		-0.30	0.18
South Asian [a]		0.03	0.18
VIA - primary identification (centered at mean)		0.11^{+}	0.04
Step 3	0.05**		
Constant		2.49**	0.12
CSDS-Denial (centered at mean)		-0.03	0.08
CSDS-Enhancement (centered at mean)		-0.24^{+}	0.10
White [a]		-0.37^{+}	0.18
Black [a]		-0.26	0.18
South Asian [a]		0.00	0.18
VIA - primary identification (centered at mean)		0.10^{+}	0.04
Level of Contact Report (centered at mean)		-0.13**	0.03
Step 4	0.00		
Constant		2.49**	0.13
CSDS-Denial (centered at mean)		-0.03	0.08
CSDS-Enhancement (centered at mean)		-0.24^{+}	0.10
White [a]		-0.39^{+}	0.19
Black [a]		-0.24^{+}	0.18
South Asian [a]		0.00	0.18
VIA - primary identification (centered at mean)		0.10	0.08
Level of Contact Report (centered at mean)		-0.13**	0.03
Interaction - VIA primary identification (centered at mean) and White vs. Middle Eastern		0.06	0.12
Interaction - VIA primary identification (centered at mean) and Black vs. Middle Eastern		-0.06	0.11
Interaction - VIA primary identification (centered at mean) and South Asian vs. Middle Eastern		0.01	0.12
Total R^2	0.10**		
n	417		

Note. MISS = Mental Illness Stigma Scale; CSDS = Culturally adapted Social Desirability Scale; VIA = Vancouver Index of Acculturation; [a] Relative to Middle Eastern reference group; $^{+}$ $p < .05$; * $p < .01$, ** $p < .001$.

Table 12

Hierarchical Regression Analysis, MISS Visibility Subscale

Independent Variables	ΔR^2	*b*	SE *b*
Step 1	0.01		
Constant		3.60**	0.06
CSDS-Denial (centered at mean)		0.01	0.08
CSDS-Enhancement (centered at mean)		0.23^{+}	0.1
Step 2	0.01		
Constant		3.80**	0.13
CSDS-Denial (centered at mean)		0.02	0.08
CSDS-Enhancement (centered at mean)		0.20^{+}	0.10
White[a]		-0.24	0.19
Black[a]		-0.43^{+}	0.19
South Asian[a]		-0.14	0.18
VIA - primary identification (centered at mean)		0.05	0.05
Step 3	0.00		
Constant		3.79**	0.13
CSDS-Denial (centered at mean)		0.02	0.08
CSDS-Enhancement (centered at mean)		0.21^{+}	0.10
White[a]		-0.23	0.19
Black[a]		-0.42^{+}	0.19
South Asian[a]		-0.14	0.18
VIA - primary identification (centered at mean)		0.05	0.05
Level of Contact Report (centered at mean)		-0.02	0.03
Step 4	0.00		
Constant		3.82**	0.14
CSDS-Denial (centered at mean)		0.02	0.08
CSDS-Enhancement (centered at mean)		0.21^{+}	0.11
White[a]		-0.25	0.19
Black[a]		-0.44^{+}	0.19
South Asian[a]		-0.17	0.19
VIA - primary identification (centered at mean)		0.10	0.08
Level of Contact Report (centered at mean)		-0.02	0.03
Interaction - VIA primary identification (centered at mean) and White vs. Middle Eastern		-0.05	0.13
Interaction - VIA primary identification (centered at mean) and Black vs. Middle Eastern		-0.08	0.12
Interaction - VIA primary identification (centered at mean) and South Asian vs. Middle Eastern		-0.07	0.13
Total R^2	0.03		
n	419		

Note. MISS = Mental Illness Stigma Scale; CSDS = Culturally adapted Social Desirability Scale; VIA = Vancouver Index of Acculturation; [a] Relative to Middle Eastern reference group; $^{+}$ $p < .05$; * $p < .01$, ** $p < .001$.

Table 13

Hierarchical Regression Analysis, MISS Recovery Subscale

Independent Variables	Δ R^2	*b*	SE *b*
Step 1	0.03*		
Constant		2.27**	0.06
CSDS-Denial (centered at mean)		-0.25*	0.08
CSDS-Enhancement (centered at mean)		-0.13	0.10
Step 2	0.02 $^+$		
Constant		2.38**	0.13
CSDS-Denial (centered at mean)		-0.22*	0.08
CSDS-Enhancement (centered at mean)		-0.16	0.10
White [a]		-0.25	0.19
Black [a]		-0.33	0.18
South Asian [a]		0.16	0.18
VIA - primary identification (centered at mean)		0.06	0.05
Step 3	0.01		
Constant		2.36**	0.13
CSDS-Denial (centered at mean)		-0.24*	0.08
CSDS-Enhancement (centered at mean)		-0.15	0.10
White [a]		-0.20	0.19
Black [a]		-0.32	0.19
South Asian [a]		0.15	0.18
VIA - primary identification (centered at mean)		0.05	0.05
Level of Contact Report (centered at mean)		-0.05	0.03
Step 4	0.00		
Constant		2.38**	0.14
CSDS-Denial (centered at mean)		-0.24*	0.08
CSDS-Enhancement (centered at mean)		-0.15	0.11
White [a]		-0.22	0.19
Black [a]		-0.33	0.19
South Asian [a]		0.14	0.19
VIA - primary identification (centered at mean)		0.08	0.08
Level of Contact Report (centered at mean)		-0.05	0.03
Interaction - VIA primary identification (centered at mean) and White vs. Middle Eastern		-0.03	0.13
Interaction - VIA primary identification (centered at mean) and Black vs. Middle Eastern		-0.04	0.12
Interaction - VIA primary identification (centered at mean) and South Asian vs. Middle Eastern		-0.06	0.13
Total R^2	0.05$^+$		
n	418		

Note. MISS = Mental Illness Stigma Scale; CSDS = Culturally adapted Social Desirability Scale; VIA = Vancouver Index of Acculturation; [a] Relative to Middle Eastern reference group; $^+$ $p < .05$; * $p < .01$, ** $p < .001$.

Table 14

Hierarchical Regression Analysis, MISS Treatability Subscale

Independent Variables	ΔR^2	*b*	SE *b*
Step 1	0.08**		
Constant		2.52**	0.06
CSDS-Denial (centered at mean)		-0.13	0.07
CSDS-Enhancement (centered at mean)		-0.49**	0.09
Step 2	0.03*		
Constant		2.62**	0.11
CSDS-Denial (centered at mean)		-0.12	0.07
CSDS-Enhancement (centered at mean)		-0.48**	0.09
White [a]		-0.42*	0.16
Black [a]		-0.10	0.16
South Asian [a]		0.10	0.16
VIA - primary identification (centered at mean)		0.03	0.04
Step 3	0.02**		
Constant		2.60**	0.11
CSDS-Denial (centered at mean)		-0.16^{+}	0.07
CSDS-Enhancement (centered at mean)		-0.46**	0.09
White [a]		-0.32^{+}	0.16
Black [a]		-0.07	0.16
South Asian [a]		0.08	0.16
VIA - primary identification (centered at mean)		0.02	0.04
Level of Contact Report (centered at mean)		-0.09**	0.03
Step 4	0.00		
Constant		2.62**	0.12
CSDS-Denial (centered at mean)		-0.15^{+}	0.07
CSDS-Enhancement (centered at mean)		-0.45**	0.09
White [a]		-0.33	0.17
Black [a]		-0.08	0.16
South Asian [a]		0.05	0.16
VIA - primary identification (centered at mean)		0.06	0.07
Level of Contact Report (centered at mean)		-0.09**	0.03
Interaction - VIA primary identification (centered at mean) and White vs. Middle Eastern		-0.09	0.11
Interaction - VIA primary identification (centered at mean) and Black vs. Middle Eastern		-0.06	0.10
Interaction - VIA primary identification (centered at mean) and South Asian vs. Middle Eastern		0.00	0.11
Total R^2	0.13**		
n	419		

Note. MISS = Mental Illness Stigma Scale; CSDS = Culturally adapted Social Desirability Scale; VIA = Vancouver Index of Acculturation; [a] Relative to Middle Eastern reference group; $^{+}$ $p < .05$; * $p < .01$, ** $p < .001$.

Table 15

Hierarchical Regression Analysis, MISS Professional Efficacy Subscale

Independent Variables	Δ R^2	*b*	SE *b*
Step 1	0.10**		
Constant		3.11**	0.07
CSDS-Denial (centered at mean)		-0.16	0.09
CSDS-Enhancement (centered at mean)		-0.78**	0.12
Step 2	0.00		
Constant		3.24**	0.15
CSDS-Denial (centered at mean)		-0.17	0.10
CSDS-Enhancement (centered at mean)		-0.76**	0.12
White [a]		-0.21	0.22
Black [a]		-0.11	0.22
South Asian [a]		-0.20	0.21
VIA - primary identification (centered at mean)		-0.02	0.05
Step 3	0.00		
Constant		3.24**	0.15
CSDS-Denial (centered at mean)		-0.17	0.10
CSDS-Enhancement (centered at mean)		-0.76**	0.12
White [a]		-0.21	0.22
Black [a]		-0.11	0.22
South Asian [a]		-0.20	0.22
VIA - primary identification (centered at mean)		0.02	0.05
Level of Contact Report (centered at mean)		0.00	0.04
Step 4	0.00		
Constant		3.27**	0.16
CSDS-Denial (centered at mean)		-0.17	0.10
CSDS-Enhancement (centered at mean)		-0.74**	0.12
White [a]		-0.21	0.23
Black [a]		-0.14	0.22
South Asian [a]		-0.23	0.22
VIA - primary identification (centered at mean)		0.03	0.09
Level of Contact Report (centered at mean)		0.00	0.04
Interaction - VIA primary identification (centered at mean) and White vs. Middle Eastern		-0.14	0.15
Interaction - VIA primary identification (centered at mean) and Black vs. Middle Eastern		-0.06	0.14
Interaction - VIA primary identification (centered at mean) and South Asian vs. Middle Eastern		-0.04	0.15
Total R^2	0.11**		
n	420		

Note. MISS = Mental Illness Stigma Scale; CSDS = Culturally adapted Social Desirability Scale; VIA = Vancouver Index of Acculturation; [a] Relative to Middle Eastern reference group; $^+$ $p < .05$; * $p < .01$, ** $p < .001$.

Table 16

Hierarchical Regression Analysis, Social Distance Scale

Independent Variables	Δ R^2	*b*	SE *b*
Step 1	0.03*		
Constant		2.63**	0.05
CSDS-Denial (centered at mean)		-0.06	0.06
CSDS-Enhancement (centered at mean)		-0.25*	0.07
Step 2	0.04*		
Constant		2.87**	0.09
CSDS-Denial (centered at mean)		-0.05	0.06
CSDS-Enhancement (centered at mean)		-0.27**	0.08
White [a]		-0.44*	0.14
Black [a]		-0.41*	0.14
South Asian [a]		-0.16	0.13
VIA - primary identification (centered at mean)		0.07 $^{+}$	0.03
Step 3	0.05**		
Constant		2.84**	0.09
CSDS-Denial (centered at mean)		-0.09	0.06
CSDS-Enhancement (centered at mean)		-0.25*	0.07
White [a]		-0.32^{+}	0.13
Black [a]		-0.38*	0.13
South Asian [a]		-0.18	0.13
VIA - primary identification (centered at mean)		0.06	0.03
Level of Contact Report (centered at mean)		-0.11**	0.02
Step 4	0.02^{+}		
Constant		2.90**	0.10
CSDS-Denial (centered at mean)		-0.08	0.06
CSDS-Enhancement (centered at mean)		-0.21*	0.07
White [a]		-0.33^{+}	0.14
Black [a]		-0.40*	0.13
South Asian [a]		-0.24	0.13
VIA - primary identification (centered at mean)		0.14^{+}	0.06
Level of Contact Report (centered at mean)		-0.11**	0.02
Interaction - VIA primary identification (centered at mean) and White vs. Middle Eastern		-0.19^{+}	0.09
Interaction - VIA primary identification (centered at mean) and Black vs. Middle Eastern		-0.17^{+}	0.08
Interaction - VIA primary identification (centered at mean) and South Asian vs. Middle Eastern		0.02	0.09
Total R^2	0.14**		
n	419		

Note. CSDS = Culturally adapted Social Desirability Scale; VIA = Vancouver Index of Acculturation; [a] Relative to Middle Eastern reference group; $^{+}$ $p < .05$; * $p < .01$, ** $p < .001$.

Table 17

Pearson Product-Moment Correlations Between Participants' Degree of Ethno-Racial Identification and the Mental Illness Stigma Outcome Measures

	Participants' degree of ethno-racial identification within each of the ethno-racial groups [a]			
	White	Black	South Asian	Middle Eastern
Mental Illness Stigma Measures				
MISS – Total Score	-0.02	0.03	0.13	0.34**
MISS – Anxiety subscale	0.02	0.16	0.17	0.44**
MISS – Visibility subscale	0.09	0.02	0.03	0.12
MISS – Relationship Disruption subscale	-0.04	0.14	0.18	0.28*
MISS – Hygiene subscale	0.16	0.03	0.12	0.15
MISS – Recovery subscale	-0.10	0.03	0.04	0.13
MISS – Treatability subscale	-0.16	-0.05	0.09	0.11
MISS – Professional Efficacy subscale	-0.20	-0.08	0.00	0.06
Social Distance Scale	-0.02	-0.04	0.23$^+$	0.25*
PSBCPP-Perceived Stigma subscale	-0.05	-0.01	0.02	0.17

Note. MISS = Mental Illness Stigma Scale; PSBCPP = Perceived Stigma and Barriers to Care for Psychological Problems; [a] as measured by the Vancouver Index of Acculturation; $^+$ $p < .05$; * $p < .01$; ** $p < .001$.

Table 18

Sample Codes, Sub-Categories, Categories, and Super-Categories Pertinent to the Negative Valence Items

		Categories	Sub-Categories	Sample codes
Negative	Beliefs	About the family	Family at fault	Bad parenting, not raised well.
			Family as ill	Family is sick, mental illness reflects health of family.
		About the individual	**Different**[a]	Abnormal, bizarre, not normal, unusual.
			Bad	Awful, evil, selfish, terrible, wrong.
			Crazy[a]	'Coocoo', insane, loose screws, lunatic, mad, mental, nuts.
			Disorderly	Out of control, unpredictable, unstable.
			Failure[a]	Falling short of potential, incapable, lazy, no life, unsuccessful.
			Harmful	Aggressive, contagious, dangerous, violent, wanting to cause harm.
			Inadequate[a]	Cripple, feeble, fragile, lacking, cognitive difficulties, weak.
			Invalid[a]	Disingenuous, minimized, not real, overestimating control,
			Nuisance[a]	Annoying, burden, dependent, disgusting, causing shame.
			Problematic emotions	Emotionally deficient, emotionally unstable, excessive emotions.
		Causation	**Person at fault**[a]	Behaviours are to blame, punishment.
			Supernatural	Black magic, cursed, devil, ghost, God, possessed.
		Consequences of mental illness	Grim future	Bleak, without a future.
			Inequality	Homelessness, loss of rights, unemployment, unable to find a partner.
			Poor prognosis	Difficult to cure, not curable
			Stigma as permanent	Label as unchanging over time, label as unchanging despite recovery.
		Coping with mental illness	Advice	Should address with family, should seek help, should seek religion.
			Needs	Needs to be attended to for life, needs to be dealt with.
		Nature of mental illness	General impairment	Defective, broken, problems, messed up, has issues.
			Psychological challenges[a]	Mentally unstable, brain defect, specific mental illnesses.
	Experiences	Of others in relation to the affected individual	Anger	Frustration, hatred, hostility.
			Confusion	Unsure how to respond, unsure how to make sense of situation.
			Fear	Creepy, frightening, scary.
			Sadness	Affected individual as a 'downer.'
			Undifferentiated	Distress, uncomfortable, stressful.
		Of the affected individual	Distress	Hopeless, lost, increased stress.
			Shame	Ashamed, embarrassed, shameful.
		Of the family	Nuisance	Burden to the family.
			Shame	Shame to family name, disgrace to the family.
	Behaviours	Expressed by others towards the affected individual	Not addressing needs	Neglect, lack of compassion, withhold assistance.
			Not discussed	Mental illness as taboo, topic that is ignored.
			Social Distance[a]	Stay away, avoid, exclude, avoid close interactions.
			Attacks[a]	Aggression, disrespectful comments, verbal affronts, abuse.
			Blocking opportunities	Preventing employment, rendering opportunities inaccessible.
			Impose solutions	Encourage a change in behaviour, gratitude, prayer.
			Invalidate[a]	Dismiss, state person is disingenuous, minimize, overestimate control.
			Label as nuisance	Convey individual is a burden.
			Reject	Disown, express disgust, remove from home.
			Shame	Disapprove, hide affected individual from public.
			Gossip	Talk behind back.
			Treat as fragile	Treat individual as lesser, treat person as weak, undermine opinions.
		Expressed by society	Media	Movies, television, comedy.
			Value systems	Policies, bio-medicalization.
		Expressed by the individual	Does not seek help	Unless severe, until it is too late.
			Hide symptoms	Act normal, hide emotions, hide from all but family.

[a] These terms were reported by at least 15% of participants in any one group and are described in the Results section of this study.

Table 19

Sample Codes, Sub-Categories, Categories, and Super-Categories Pertinent to the Neutral Valence Items

		Categories	Sub-Categories	Sample codes
Neutral	**Beliefs**	About the individual	Difficult situation	Disadvantaged, isolated, misunderstood, suffering.
			Person as equal	Human being, normal, just like us.
			Comment on affect	Angry, anxious, depressed, distressed, ashamed.
			Neutral characteristic	Introverted, quiet, shy, serious.
		Causation	Supernatural	Destiny, God.
		Consequences of mental illness	Positive prognosis	Curable, recovering, God will make things better.
		Nature of mental illness	General illness	Disorder, ill, unwell.
			Impairment	Challenged, disabled, injured.
			Psychological challenges	Mental issues, experiencing psychosis, drug-dependence.
	Behaviours	Expressed by others towards the individual	Clarifying questions	Why do they do that?, What does that mean?

Table 20

Sample Codes, Sub-Categories, Categories, and Super-Categories Pertinent to the Positive Valence Items

		Categories	Sub-Categories	Sample codes
Positive	**Beliefs**	About the family	Family as blessed	Parents will go to heaven.
		About the individual	Attributes	Good personality, interpersonally desirable traits, special endowments.
		Causation	Person not at fault	Biosocial cause, person as innocent, poor upbringing.
		Coping with mental illness	Needs	In need of help, accommodations, attention.
	Experiences	In relation to the family	Compassion	Feeling bad for the family, feeling sad for the family.
		In relation to the individual	Compassion	Feeling sorry for affected individual, "poor thing."
	Behaviours	Expressed by others towards the family	Compassion	Well wishes, pitying the family.
			Concern	Inquiring about the affected individual.
		Expressed by others towards the individual	Acceptance	Social inclusion.
			Compassion	Offering support, well wishes, words of encouragement.
			Concern	Taking concerns seriously, asking person about their experience.
			Kindness	Speaking in a kind tone, kind gestures.
			Respect	Treating the person with respect, treating them as they would others.

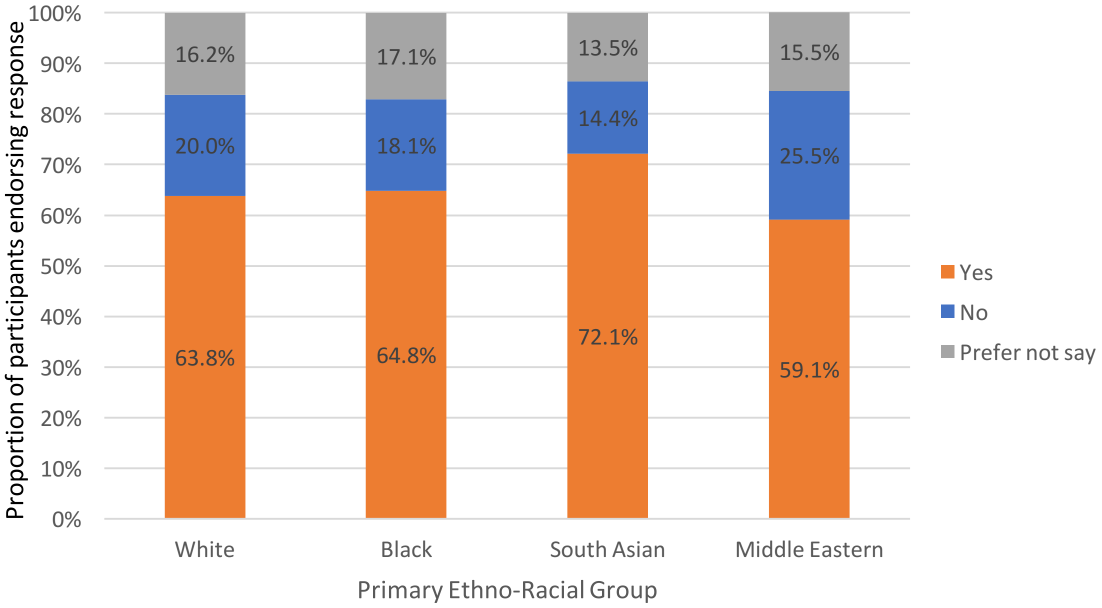

Figure 1. Distribution of participants' response to the question "Are people with mental illness stigmatized in your ethno-racial community?"

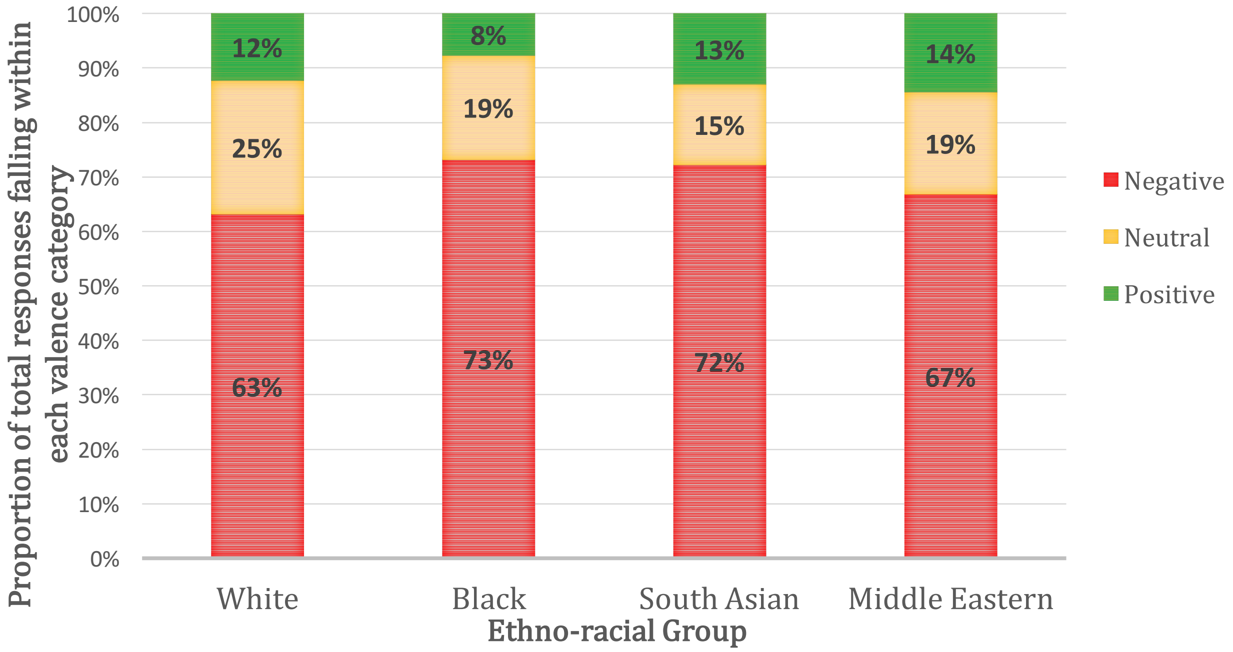

Figure 2. Absolute frequency distribution of responses falling within each of the valence categories by ethno-racial group (density)

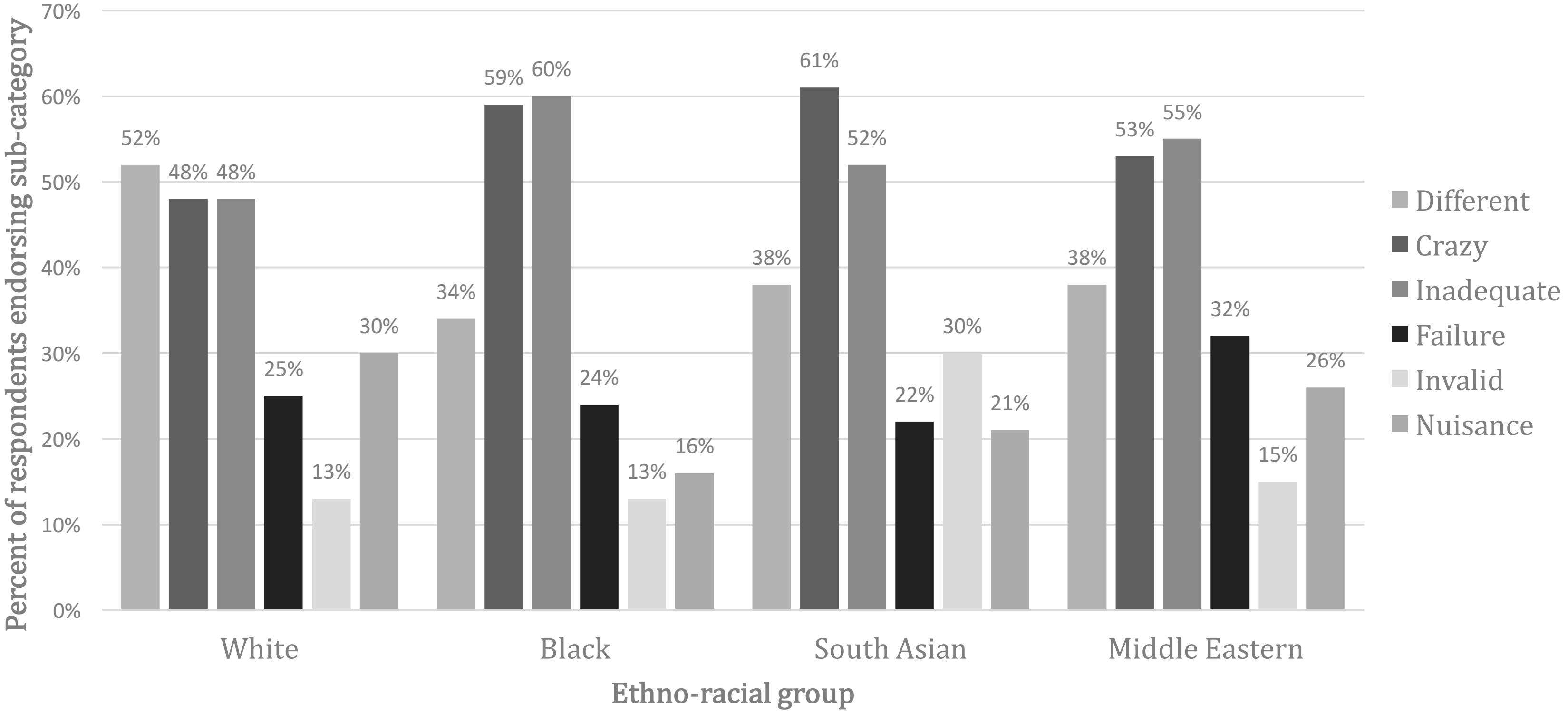

Figure 3. Proportion of respondents reporting stereotypical beliefs by ethno-racial group (spread).

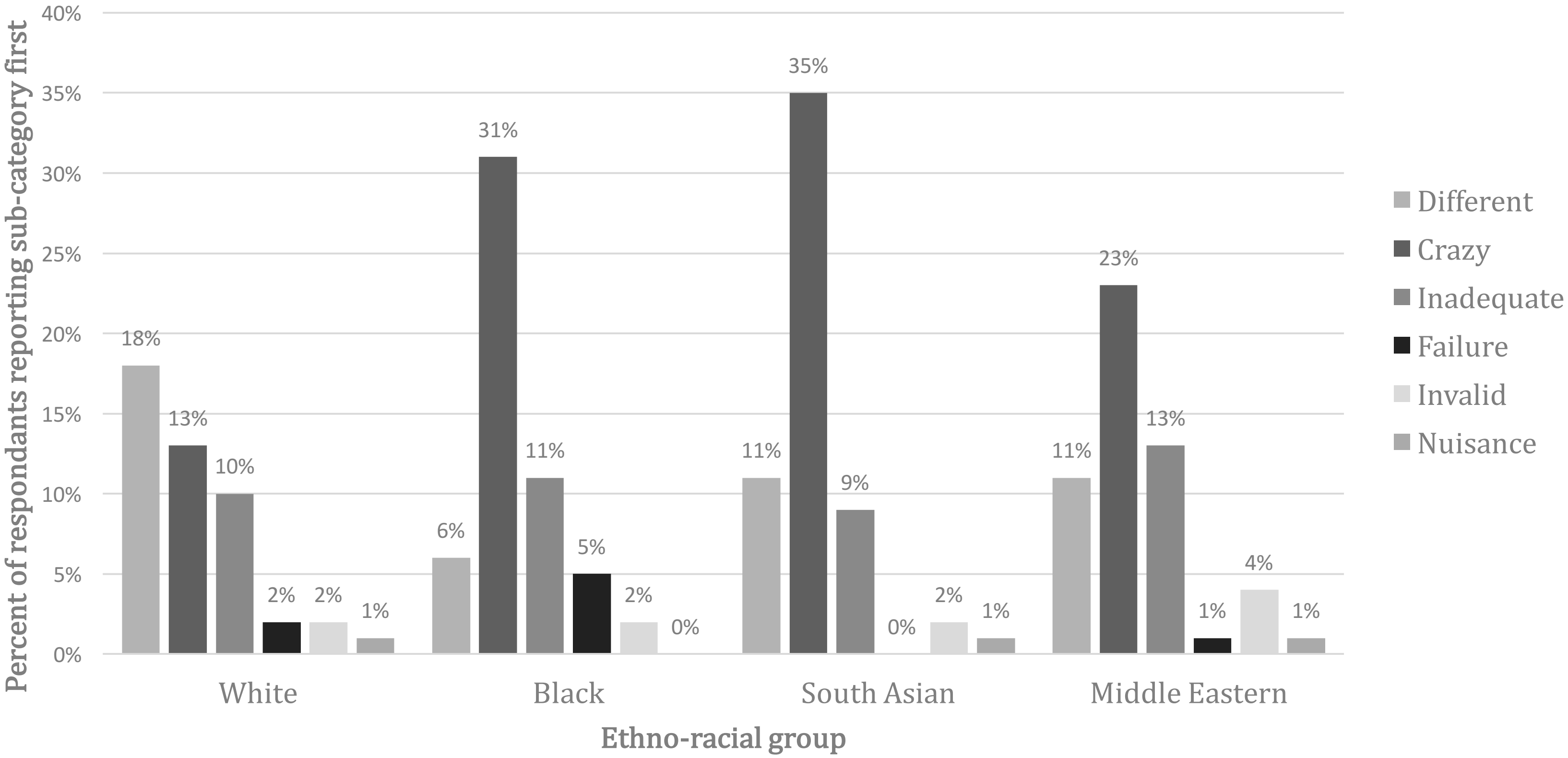

Figure 4. First stereotypical belief provided to describe persons with mental illness across ethno-racial groups (salience).

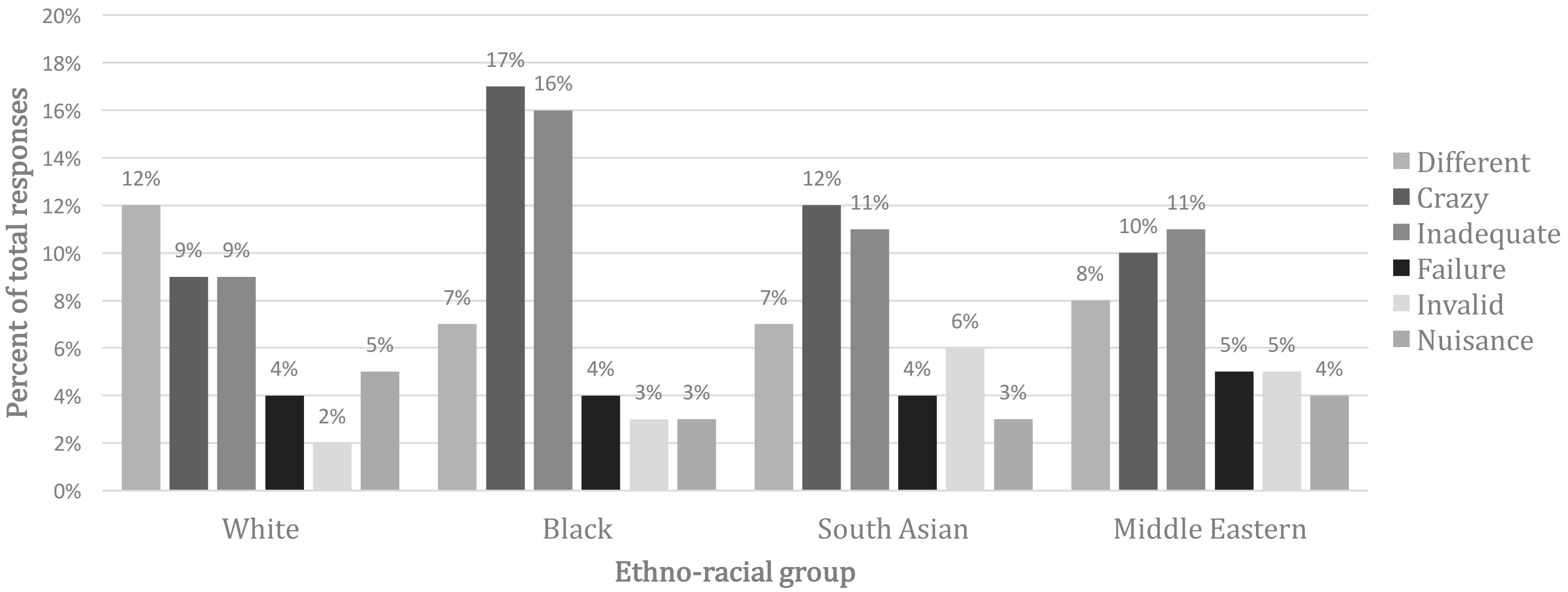

Figure 5. Percent of total responses identifying stereotypical beliefs about persons with mental illness across ethno-racial groups (density).

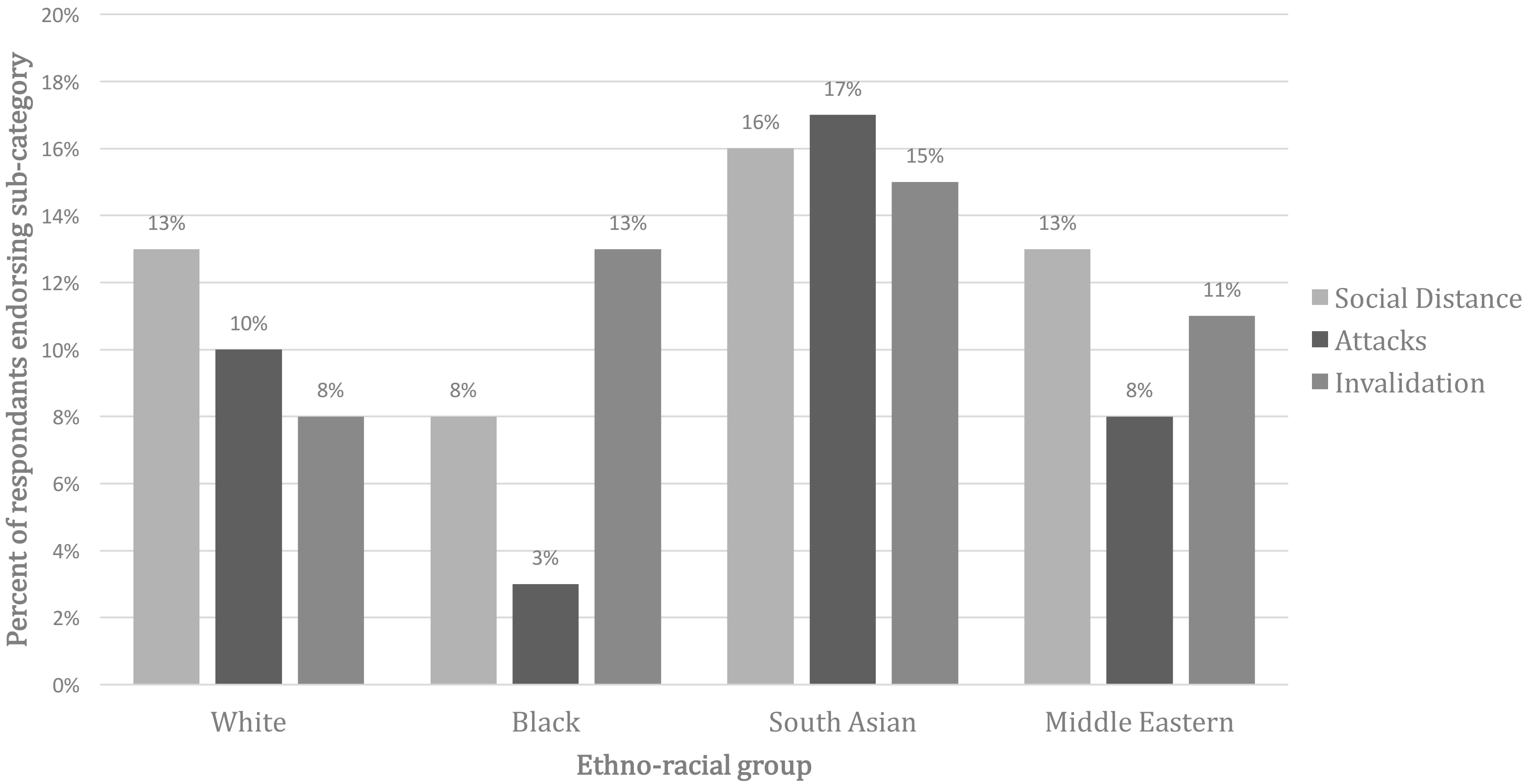

Figure 6. Proportion of respondents reporting discriminatory behaviours by ethno-racial group (spread).

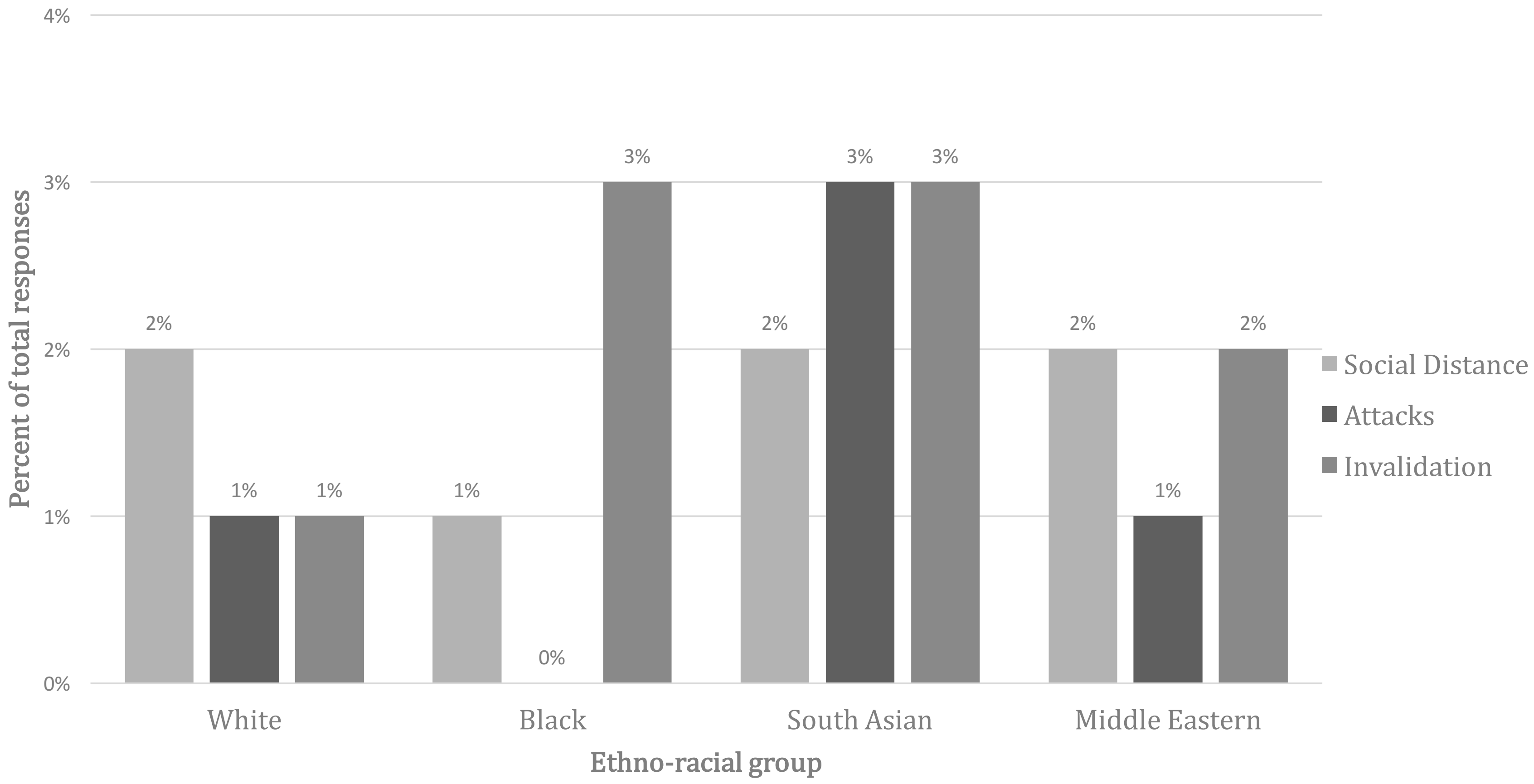

Figure 7. Percent of total responses identifying discriminatory behaviours about persons with mental illness across ethno-racial groups (density).

Appendix A

Perceived Stigma subscale of the Perceived Stigma and Barriers to Care for Psychological Problems scale

There are many factors that can affect a person's willingness to seek treatment for a mental illness. Using the scale below, rate each of the possible concerns that might affect your decision to seek treatment from a mental health professional (e.g., a psychologist or counsellor), if you had a psychological problem (e.g., a stress or emotional problem such as depression or anxiety attacks).

As before, the "ethno-racial group" to which the items below refer, is the [participant's primary ethno-racial identification, e.g., Middle Eastern] community.

	Strongly disagree (1)				Strongly agree (5)
1. I would be concerned that it would be too embarrassing if others in my ethno-racial group found out.	☐	☐	☐	☐	☐
2. I would be concerned that it would harm my reputation within my ethno-racial group.	☐	☐	☐	☐	☐
3. I would be concerned that the people in my ethno-racial group would treat me differently.	☐	☐	☐	☐	☐
4. I would be concerned that people in my ethno-racial group would blame me for the problem.	☐	☐	☐	☐	☐
5. I would be concerned that I would be seen as weak by those in my ethno-racial group.	☐	☐	☐	☐	☐
6. I would be concerned that people important to me in my ethno-racial group would think less of me.	☐	☐	☐	☐	☐

Appendix B

Mental Illness Stigma Scale (Day et al., 2007)

Please complete the following questionnaire according to your own opinion about those who have a mental illness (i.e., a psychological disorder). You are asked to rate the extent to which you agree or disagree with each statement.

	Completely disagree (1)						Completely agree (7)
1. There are effective medications for mental illnesses that allow people to return to normal and productive lives. *Treatability*	☐	☐	☐	☐	☐	☐	☐
2. I don't think that it is possible to have a normal relationship with someone with a mental illness. *Relationship disruption*	☐	☐	☐	☐	☐	☐	☐
3. I would find it difficult to trust someone with a mental illness. *Relationship disruption*	☐	☐	☐	☐	☐	☐	☐
4. People with mental illnesses tend to neglect their appearance. *Hygiene*	☐	☐	☐	☐	☐	☐	☐
5. It would be difficult to have a close meaningful relationship with someone with a mental illness. *Relationship disruption*	☐	☐	☐	☐	☐	☐	☐
6. I feel anxious and uncomfortable when I'm around someone with a mental illness. *Anxiety*	☐	☐	☐	☐	☐	☐	☐
7. It is easy for me to recognize the symptoms of mental illnesses. *Visibility*	☐	☐	☐	☐	☐	☐	☐
8. There are no effective treatments for mental illnesses. *Treatability, reverse scored*	☐	☐	☐	☐	☐	☐	☐
9. I probably wouldn't know that someone has a mental illness unless I was told. *Visibility, reverse scored*	☐	☐	☐	☐	☐	☐	☐
10. A close relationship with someone with a mental illness would be like living on an emotional roller coaster. *Relationship disruption*	☐	☐	☐	☐	☐	☐	☐
11. There is little that can be done to control the symptoms of mental illness. *Treatability, reverse scored*	☐	☐	☐	☐	☐	☐	☐
12. I think that a personal relationship with someone with a mental illness would be too demanding. *Relationship disruption*	☐	☐	☐	☐	☐	☐	☐
13. Once someone develops a mental illness, he or she will never be able to fully recover from it. *Recovery, reverse scored*	☐	☐	☐	☐	☐	☐	☐
14. People with mental illnesses ignore their hygiene, such as bathing and using deodorant. *Hygiene*	☐	☐	☐	☐	☐	☐	☐

15. Mental illnesses prevent people from having normal relationships with others. *Relationship disruption*	☐	☐	☐	☐	☐	☐	☐
16. I tend to feel anxious and nervous when I am around someone with a mental illness. *Anxiety*	☐	☐	☐	☐	☐	☐	☐
17. When talking with someone with a mental illness, I worry that I might say something that will upset him or her. *Anxiety*	☐	☐	☐	☐	☐	☐	☐
18. I can tell that someone has a mental illness by the way he or she acts. *Visibility*	☐	☐	☐	☐	☐	☐	☐
19. People with mental illnesses do not groom themselves properly. *Hygiene*	☐	☐	☐	☐	☐	☐	☐
20. People with mental illnesses will remain ill for the rest of their lives. *Recovery, reverse scored*	☐	☐	☐	☐	☐	☐	☐
21. I don’t think that I can really relax and be myself when I’m around someone with a mental illness. *Anxiety*	☐	☐	☐	☐	☐	☐	☐
22. When I am around someone with a mental illness, I worry that he or she might harm me physically. *Anxiety*	☐	☐	☐	☐	☐	☐	☐
23. Psychiatrists and psychologists have the knowledge and skills needed to effectively treat mental illnesses. *Professional efficacy*	☐	☐	☐	☐	☐	☐	☐
24. I would feel unsure about what to say or do if I were around someone with a mental illness. *Anxiety*	☐	☐	☐	☐	☐	☐	☐
25. I feel nervous and uneasy when I’m near someone with a mental illness. *Anxiety*	☐	☐	☐	☐	☐	☐	☐
26. I can tell that someone has a mental illness by the way he or she talks. *Visibility*	☐	☐	☐	☐	☐	☐	☐
27. People with mental illnesses need to take better care of their grooming (bathe, clean teeth, use deodorant). *Hygiene*	☐	☐	☐	☐	☐	☐	☐
28. Mental health professionals, such as psychiatrists and psychologists, can provide effective treatments for mental illnesses. *Professional efficacy*	☐	☐	☐	☐	☐	☐	☐

Note: The subscale to which each item belongs is italicized at the end of each item.

Appendix C

Social Distance Scale (Link et al., 1999)

Jordan is a person with a serious mental illness. Please indicate your willingness to interact with Jordan across a range of situations.

	Definitely not (1)				Definitely (5)
1. Move next door to Jordan.	☐	☐	☐	☐	☐
2. Spend an evening socializing with Jordan.	☐	☐	☐	☐	☐
3. Make friends with Jordan.	☐	☐	☐	☐	☐
4. Start working closely with Jordan.	☐	☐	☐	☐	☐
5. Have Jordan marry into your family.	☐	☐	☐	☐	☐

Appendix D

Cultural adaptation of the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960; He et al., 2015).

Listed below are a number of statements concerning personality attitudes and traits. Read each item carefully and indicate the degree to which it pertains to you personally.

	Strongly disagree (1)				Strongly agree (5)
1. I think about my options before I make a choice. *Enhancement*	☐	☐	☐	☐	☐
2. I help others in trouble. *Enhancement*	☐	☐	☐	☐	☐
3. I continue with my work if I am motivated. *Enhancement*	☐	☐	☐	☐	☐
4. I have doubts about my ability to succeed in life. *Denial, reverse coded*	☐	☐	☐	☐	☐
5. I am satisfied when I get my way. *Enhancement*	☐	☐	☐	☐	☐
6. I am careful about my way of dressing. *Enhancement*	☐	☐	☐	☐	☐
7. I gossip. *Denial, reverse coded*	☐	☐	☐	☐	☐
8. I am a good listener. *Enhancement*	☐	☐	☐	☐	☐
9. I forgive others for their wrongdoings. *Enhancement*	☐	☐	☐	☐	☐
10. I admit when I do not know something. *Enhancement*	☐	☐	☐	☐	☐
11. I do things my way. *Enhancement*	☐	☐	☐	☐	☐
12. I would let someone else be punished for my wrongdoings. *Denial, reverse coded*	☐	☐	☐	☐	☐
13. I am jealous of others with good fortune. *Denial, reverse coded*	☐	☐	☐	☐	☐

Note: The subscale to which each item belongs is italicized at the end of each item.

Appendix E

Vancouver Index of Acculturation, heritage subscale, completed by individuals who identified as White European, Black African, Black Caribbean, South Asian and Middle Eastern ($n = 386$).

You indicated that you identify most with the following ethno-racial group: [participant's primary ethno-racial identification]. Please answer each question as carefully as possible by indicating your degree of agreement or disagreement.

	Strongly disagree (1)		Disagree (3)		Neutral / Depends (5)		Agree (7)		Strongly agree (9)
1. I often participate in the traditions of my ethno-racial group.	☐	☐	☐	☐	☐	☐	☐	☐	☐
2. I would be willing to marry a person from my ethno-racial group.	☐	☐	☐	☐	☐	☐	☐	☐	☐
3. I enjoy social activities with people from the same ethno-racial group as myself.	☐	☐	☐	☐	☐	☐	☐	☐	☐
4. I am comfortable working with people of the same ethno-racial group as myself.	☐	☐	☐	☐	☐	☐	☐	☐	☐
5. I enjoy entertainment (e.g., movies, music) from my ethno-racial group.	☐	☐	☐	☐	☐	☐	☐	☐	☐
6. I often behave in ways that are typical of my ethno-racial group.	☐	☐	☐	☐	☐	☐	☐	☐	☐
7. It is important for me to maintain or develop the practices of my ethno-racial group.	☐	☐	☐	☐	☐	☐	☐	☐	☐
8. I believe in the values of my ethno-racial group.	☐	☐	☐	☐	☐	☐	☐	☐	☐
9. I enjoy the jokes and humour of my ethno-racial group.	☐	☐	☐	☐	☐	☐	☐	☐	☐
10. I am interested in having friends from my ethno-racial group.	☐	☐	☐	☐	☐	☐	☐	☐	☐

Appendix F

Vancouver Index of Acculturation, heritage subscale, completed by individuals who identified as White North American or Black North American ($n = 37$).

The following questions will refer to your heritage culture, meaning the culture that has influenced you the most (OTHER THAN NORTH AMERICAN CULTURE). It may be the culture of your birth, the culture in which you have been raised, or another culture that forms part of your background. If there are several such cultures, pick the one that has influenced you the most. If you do not feel that you have been influenced by any other culture, please try to identify a culture that may have had an impact on previous generations of your family.

Please select your heritage culture from the options below:

☐ White European
☐ White North American
☐ Black African
☐ Black North American
☐ Black Caribbean
☐ South Asian
☐ Middle Eastern
☐ Other. Please specify: ___________________________

Using the rating scale below, please answer the following questions about your HERITAGE CULTURE (as selected in the question above):

	Strongly disagree (1)		Disagree (3)		Neutral / Depends (5)		Agree (7)		Strongly agree (9)
1. I often participate in my heritage culture traditions.	☐	☐	☐	☐	☐	☐	☐	☐	☐
2. I would be willing to marry a person from my heritage cultural group.	☐	☐	☐	☐	☐	☐	☐	☐	☐
3. I enjoy social activities with people from the same heritage culture as myself.	☐	☐	☐	☐	☐	☐	☐	☐	☐
4. I am comfortable working with people of the same heritage culture as myself.	☐	☐	☐	☐	☐	☐	☐	☐	☐
5. I enjoy entertainment (e.g., movies, music) from my heritage culture.	☐	☐	☐	☐	☐	☐	☐	☐	☐
6. I often behave in ways that are typical of my heritage culture.	☐	☐	☐	☐	☐	☐	☐	☐	☐

7. It is important for me to maintain or develop the practices of my heritage culture.	☐	☐	☐	☐	☐	☐	☐	☐	☐
8. I believe in the values of my heritage culture.	☐	☐	☐	☐	☐	☐	☐	☐	☐
9. I enjoy the jokes and humour of my heritage culture.	☐	☐	☐	☐	☐	☐	☐	☐	☐
10. I am interested in having friends from my heritage culture.	☐	☐	☐	☐	☐	☐	☐	☐	☐

Appendix G

Vancouver Index of Acculturation, mainstream subscale, completed by all participants.

Please answer each question as carefully as possible by indicating your degree of agreement or disagreement.

	Strongly disagree (1)		Disagree (3)		Neutral / Depends (5)		Agree (7)		Strongly agree (9)
1. I often participate in mainstream North American cultural traditions.	☐	☐	☐	☐	☐	☐	☐	☐	☐
2. I would be willing to marry a North American person.	☐	☐	☐	☐	☐	☐	☐	☐	☐
3. I enjoy social activities with typical North American people.	☐	☐	☐	☐	☐	☐	☐	☐	☐
4. I am comfortable working with typical North American people.	☐	☐	☐	☐	☐	☐	☐	☐	☐
5. I enjoy North American entertainment (e.g., movies, music).	☐	☐	☐	☐	☐	☐	☐	☐	☐
6. I often behave in ways that are ‘typically North American’.	☐	☐	☐	☐	☐	☐	☐	☐	☐
7. It is important for me to maintain or develop North American cultural practices.	☐	☐	☐	☐	☐	☐	☐	☐	☐
8. I believe in mainstream North American values.	☐	☐	☐	☐	☐	☐	☐	☐	☐
9. I enjoy typical North American jokes and humour.	☐	☐	☐	☐	☐	☐	☐	☐	☐
10. I am interested in having North American friends.	☐	☐	☐	☐	☐	☐	☐	☐	☐

Appendix H

Level of Contact Report (Corrigan et al., 2005)

Please read each of the following statements about your exposure to persons with a serious mental illness carefully and answer whether the statement is true or false as it relates to you personally.

1. I have never observed a person with mental illness. False True
2. I have watched a television show that included a person with mental illness. False True
3. I have observed a person with a serious mental illness. False True
4. I have been in a class with a person with a serious mental illness. False True
5. A friend of the family has a serious mental illness. False True
6. I have a relative who has a serious mental illness. False True
7. I live with a person who has a serious mental illness. False True
8. I have a mental illness, or have had one at some point in my life. False True